The Builder.

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M. César Daly on "Hautes Études."

IN a recent issue of the *Journal of Proceedings* of the Institute of Architects, mention was made of a pamphlet which had been sent to the members of the Council of the Institute by M. César Daly, on "Des Hautes Études d'Architecture." The pamphlet is, in fact, a reprint of an article which appeared some time before in the *Revue Générale de l'Architecture*, the high-class monthly, or quasi-monthly, Journal of Architecture (for its terms of periodicity are somewhat abnormal and irregular) which was founded nearly fifty years ago by M. Daly, and has been carried on by him ever since.*

The original article has the sub-title, "Un appel à nos corps constitués et aux architects indépendants"; and by his recent action in bringing it specially under the notice of the Institute of British Architects (and, we presume, under that of similar professional bodies in other countries), we may understand that the author is desirous to gain the co-operation of the architectural bodies of other countries in forwarding the idea in which he has already endeavoured to interest those of his own country. The appeal to his own country is especially made in regard to the great Exhibition in preparation for next year. In all branches of human knowledge, urges M. Daly, it is the "Hautes Études" which give the tone and the direction to secondary and primary studies. "Elles manquent encore à l'Architecture." The world, it may be remarked, by way of an aside, has contrived to produce some good bits of architecture without them. This, however, does not affect the question whether there is not a great deal to be done in the way of scientific and methodical study of so vast a subject as architecture, and, assuming this, M. Daly appeals to his countrymen who are architects and students of architecture to aid, in their way, in marking the year 1889 by inaugurating a system of "Hautes Études," to which they are the rather urged by the consideration that unless they take the subject up without delay and do justice to it, they may be anticipated, and the honour of inaugurating a new era be snatched from them by the architects of some more intellectually active nation.

The phrase "Hautes Études" is a somewhat vague one, as an interlocutor in the *Revue* suggests. He remembers that M. Duruy, Minister of Public Instruction during the last years of the Empire, founded a kind of institution of Hautes Études of History and Philosophy, and that there exists still an annual competition for an annually-awarded prize for "Hautes Études de l'Architecture," but he has never been able to understand precisely what Hautes Études meant. Will M. Daly kindly define? And in consideration of the weak brethren, M. Daly, though protesting that he thinks it can hardly be necessary for the greater portion of his professional brethren, suggests a definition as follows:—The Higher Studies in architecture have for their object to trace back to their fundamental truth all the facts—Historic, Æsthetic, Scientific, and Practical,—relating to the art of architecture. And in order to enter on a clearer practical definition of his meaning, the author takes one subject, architectural symbolism, and places in a series of short sentences all the questions which he considers have still to be answered on this one subject, and a very curious and suggestive catechism it makes, and a very effective point in favour of the writer's argument. You think you know enough about symbolism, do you? Well, how far can you answer this question about it, or this? How far can the civilised world answer it? To some points in this catechism we may return; we content ourselves just now with expressing our appreciation of this Socratic method of showing the necessity of "Hautes Études" in architecture, and drawing from the objector an admission of his ignorance as to many points in regard to one single subject in connexion with architectural expression, its powers, and its historical development.

This view of the subject of architectural study finds a congenial soil in France. The French have always been strongly impressed with the importance of "Hautes Études;" as some one said of them in a political sense, they are greatly under the domination of ideas. Their aim at an idea of government founded on logical principles, and ignoring the actual sway of facts, gave rise to the confusion and shaking up of all old political and social creeds which constituted the Revolution, and from which, no doubt, great things arose. Their dream of an idea of a perfectly pure and logical language gave rise to the Académie Française, with its obstinate ignoring of the actual life of the language, its cold and rigid formalism, which has been so mercilessly satirised by Daudet in his recent novel, "L'Immortel." In a less marked degree, perhaps, but still very decisively, the general influence of the Académie des Beaux Arts has been towards that graceful, but cold, lifeless classicism in art and architecture which raised the life-long opposition of Viollet-le-Duc. The men who took or were given the name of Impressionists formed an extreme band of rebels against Academic law, carrying their opposition to further and more contemptuous lengths. But in France it is probable that M. Daly's able and striking appeal will still find a large number of sympathetic adherents; sympathetic in spirit if not in action. In England the answer, on the part of many readers, will no doubt be that, admitting that we are comparatively ignorant about many things in the history and development of architecture; that we have no logical theories at the basis of much of our design, &c.; there is no reason to think that better architecture would be produced by further and more systematic study in this direction of high æstheticism. The argument on this side will be that what we want, after all, is that architecture should be convenient for its purpose and picturesque and interesting in its design; that some of the most powerful, picturesque, and characteristic architecture in the world has been produced by men who probably had not a theory about art or æsthetics in their heads; and that experience has shown that a too formal and self-conscious basing of architectural design on intellectually-conceived ideals has generally tended to produce architecture correct and symmetrical indeed, but formal and uninteresting, and in which the design often was rather the mask than the expression of the practical objects of the building; a lifeless academic study instead of a piece of natural and expressive building.

There is, no doubt, a truth in this objection. The French themselves admit, if we are to accept such critics as M. Paul Sédille as fairly representing the opinion of the French architects of the day, that our domestic architecture is at present more varied, more picturesque, more full of life and interest than their own. In that particular field we are first at present; it is in domestic architecture especially that the qualities of picturesqueness and *laissez-faire*, which belong to our present fashion of architectural design, seem

* The editor's son, M. Marcel Daly, is now associated with him in the management of the *Revue*.

in their place. It is to be feared that English architects cannot claim the same superiority which an eminent French architect has conceded to us in domestic architecture, when we come to some other classes of buildings. Look at some of our recent theatres, for instance. We find, not unfrequently of late, buildings of which the arrangements are very good and very practical, but of which the façades present absolutely no architectural quality worth notice or illustration. Anything seems good enough, provided the building answers its practical purpose. It may be doubted whether we could easily find a new theatre in the French capital of which the same could be said. We might not agree with the architect's taste in details, but we should be conscious of a distinct endeavour to produce a "design," not a mere "front;" of a care and thought applied to the details from the designer's point of view of which we see little evidence in recent London buildings of the same class. There is another and a wider sense in which the French devotion to the æsthetics of architecture shows to advantage; in the willingness, namely, to subordinate mere money considerations to the desire of mastering what they regard as the higher part of the art. In that same novel of Daudet's, just referred to, the young architect, Paul Astier, shocks his father, who is a member of the Académie, by refusing to compete for the "Prix de Rome." He does not want that sort of thing, he says; he wants to get into practice. "What are you thinking of?" says old Léonard Astier, "Why, it means membership of the Institute, in time!" Poor old Léonard Astier was a pedant, but most readers would feel that he was a pedant with a kind of high ideal according to his light; he wanted his son to work for glory, not merely for money. Daudet, in spite of his castigation of the Académie, evidently had this feeling too; his Paul Astier is a youth essentially selfish and worldly. It appears to us that the feeling of subordination of business interests to higher interests is much more developed among the French architects than it is among us, and that the prevalence of this feeling is to a great extent due to the fact that they regard architecture as a matter of "Hautes Études" much more generally than is the case in England. Their "Hautes Études," no doubt, run in a too academical groove; but there is much to be said, nevertheless, for a view of the art which raises it above the region of business, and of the rapid providing of such a building as will meet the practical demands of an impatient client—above the region of mere planning, and contracting, and quantity-taking, into that of an intellectual study pursued for the sake of its own interest. We are not without those among us, young and old, who take this higher view; but we fear they are a smaller minority than in France: the standard has not been kept so high.

As to the fact, on which we glanced, that some of the most powerful architecture of the world has been produced at a time when it is unlikely that there should have been any refined thinking about architecture, we must not push the conclusion from that too far. The greatest works of the Mediæval period are, at all events, not essentially of the "picturesque" order,—as that term is usually understood. They represent, probably, the best intellectual perception of the day, for that was the one form in which intellect had then its free expression; and their architects aimed at grandeur rather than at picturesqueness, the latter quality being often attributed to them, as old and time-worn works, to a degree in which we ourselves, perhaps, would not have attributed it had we seen them as new. As a general rule, mere fanciful picturesqueness, without any dominant central idea, is a quality which, in a building, is very much dependent for its effect upon association of time and place. The architectural work which has held its own more continuously than any other on the admiration of mankind is that of the Greeks; and all the evidence we have seems to point to the fact that the Greeks were eminently given to "Hautes Études" in architecture. There is about the remains of their buildings a sense of every detail having been designed with reference to a principle, having been the object of intellectual consideration, which the remains of no other architecture impress us with to the same extent. The mistake made among the modern students of the art according to the creed of the École des Beaux Arts appears to be that they place the study of the works of those who thought about architecture intellectually above the more important necessity of thinking intellectually for themselves, in turn, on the same principle. M. Daly has the boldness to state this clearly. In his own words,—"L'Institut ne remplit pas sa mission de conservateur des grandes traditions, de pondérateur des forces aveugles qui agitent le monde de l'art. Ses membres font tous de l'éclecticisme, *et l'éclecticisme c'est le pillage et l'utilisation plus au moins habile des vieux monuments*,* mais pas du tout la conservation des grandes traditions historiques et esthétiques"—and that is the truth in a nutshell, although the word "eclecticism" is used in a rather different and more strictly literal sense than that in which we generally use it. Our own latest "eclecticism," in this sense, has been the "pillaging" of the details of a corrupted and debased form of classic art; which is, after all, a poorer kind of eclecticism than that of the students of the Villa Medici, though in some hands it has shown itself suggestive of new developments.

No one would be ready to say, of course, that it is possible to deliberately think out a new development of architecture. But it is, perhaps, possible to pave the way for one, to point a path of future progress, by such an effort. It would have to be an intellectual effort long maintained, and often apparently fruitless, and the effects resulting from it would often not be apparent except to those who looked back upon them after they were accomplished. What induces us to think that M. Daly's ideal, ambitious even to audacity as it may seem, is not purely visionary, is that there is cause to believe that the Greeks really did elaborate their architecture in that way, as a work of intellectual study; and they left the most perfect architecture we know of: perfect within its scope and intentions. We have thought that our American relatives have recently shown a kind of effort at the same ideal, discarding imitation and proceeding to work out a style *ab initio*. They have not got very far as yet, but they appear to be the only modern people who are aiming at something of the kind, as seen in the works of their best architects; and if they advance in that path they may become our architectural teachers yet, after paying us the compliment of "pillage," as M. Daly calls it, for several generations.

By way of giving some further idea of the line of study suggested by M. Daly, we may return for a moment to his exemplar subject, Symbolism, and the kind of inquiry which he suggests in regard to it. We cannot go through his questions, but among them are these: What have been the sources of symbolic forms? What do they owe to inorganic and organic nature? What to history, mythology, legend, poetry, religion, pure mysticism, or imitation of ancient suages? Are there "symboles constants," common to all races, societies, and countries? (a very interesting inquiry.) Are there transitory symbols, arising out of special conditions and disappearing with those conditions? (Instances of the two last to be produced.) What is the origin of the symbols adopted in architecture, and what is the special symbolic system which characterises respectively the leading historic styles of architecture—Egyptian, Assyrian, Persian, Greek, Roman, Indian, Arabic, Byzantine, Gothic, &c.? These are by no means all, but there is a pretty fair ground for study here. One question has a practical application: "In an epoch of social transition like ours, where architecture is in search of its path and its style, what can be the symbolic system of its architecture?" We fear that is the kind of question which cannot be answered; it answers itself, but the answer is only audible to the next age.

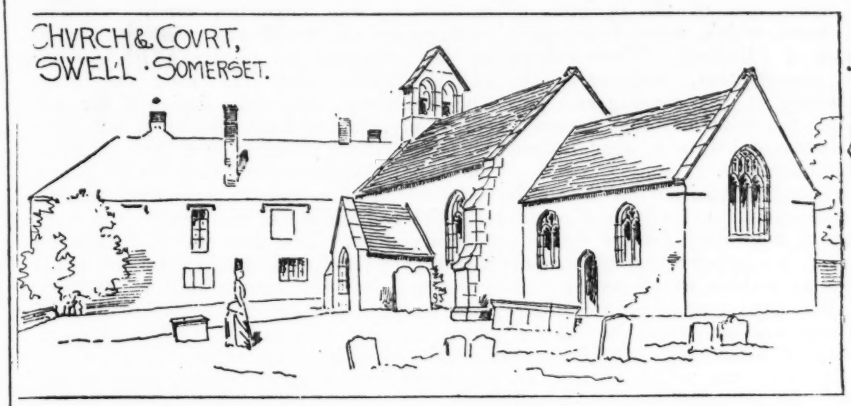
Among the other questions which M. Daly proposes for investigation are such as these: The historic styles of architecture considered in regard to their origin, progress, and decadence, showing how each arose from a preceding style, and prepared the way for a succeeding one (this latter position is not universally correct, by the way; it would be impossible to say that the decay of Gothic prepared the way for the Renaissance, except in the sense of leaving a void to be filled up in some way); comparative architecture, resemblances and differences between styles; the progress of the sciences considered in its bearing on architecture; the progress of applied science considered in the same light. The last two suggestions we give in his own words.

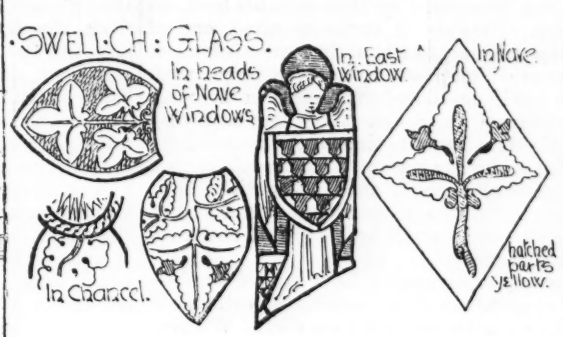
"7° *L'influence sur l'architecture des progrès accomplis dans la grande circulation* terrestre et maritime, et le developpement, chaque jour plus accentué, du *mouvement commercial et financier*."

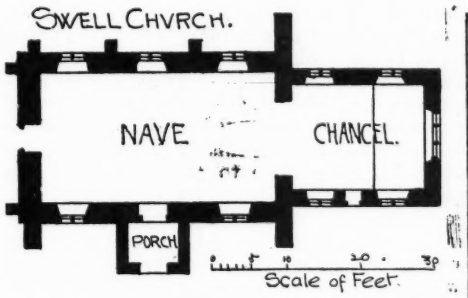
"8° Etc., etc."

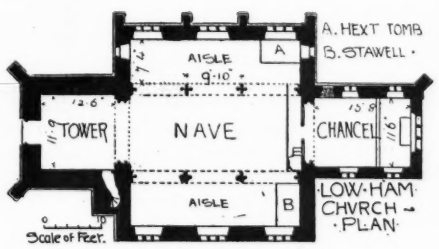
We like that "etc., etc." The programme of study sketched in this spirit could only end in the study of the relation of architecture to all things in heaven and earth and in the waters under the earth: for instance: "What effect has the saltness of the sea on architectural style? What should be the characteristic distinction between the style of architecture on a sea-coast and the coast of a fresh-water lake?" And we also might add, "etc., etc." Seriously, however, and without the "etc.," M. Daly's paper holds out a prospect for almost endless study in regard to architecture, all of it of interest in itself, and throwing light on the history and meaning of architecture; but not all, as far as we can see, bearing very directly on the main object he has in hand—that of placing architectural design and invention on a purely intellectual basis and entirely apart from the necessity of "pillaging." It is this which would be the great aim, if there were any chance of accomplishing it, and it is about this that there will be the most scepticism. No one questions the practicability of greatly extending the study of architectural history and design; but many will question the possibility of raising architectural design into an art based on purely intellectual conception. Nor do we think that is possible; the human intellect is so constituted that it must have materials to work on. *Ex nihilo nihil fit*. But architecture, especially in regard to detail, is a singularly refined and abstract form of artistic expression, entirely independent of imitation of external objects; dependent on very recondite forms of intellectual suggestion of a metaphysical nature. As we have said, there is reason to believe that the Greeks did apply abstract reasoning to the treatment and evolution of architectural style and detail, and that there has been little attempt at this since their epoch. Our French contemporary appeals to the leading members of the architectural profession to take up the study of architecture on this intellectual basis. The sum of talent among the architectural corporations of the day is, he says, very great, and should be devoted to this end,—the combination of intellect in the "Hautes Études" of architecture; and he even suggests the idea, since international congresses are so common, of an international congress with a view of organising the "Higher Study" of Architecture. It is an ambitious,—perhaps some may think it a chimerical,—idea; but to aim high is to strike high. It would be at least an inspiriting thing to see a meeting of the most able men of the profession of all countries, not to discuss the questions of a "Caisse de Défence Mutuelle," or of disputes about liability for errors in quantities, but for the consideration of architecture purely as an intellectual form of artistic expression; and the idea ought, at all events, to be a congenial one to a society which, like our English Institute, was chartered for "the advancement of the Art of Architecture."

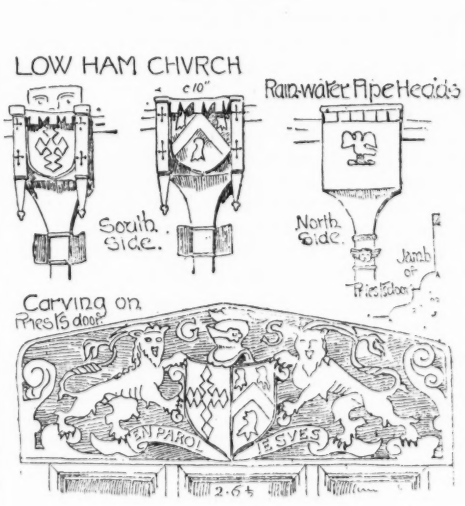
* The italics are our own.

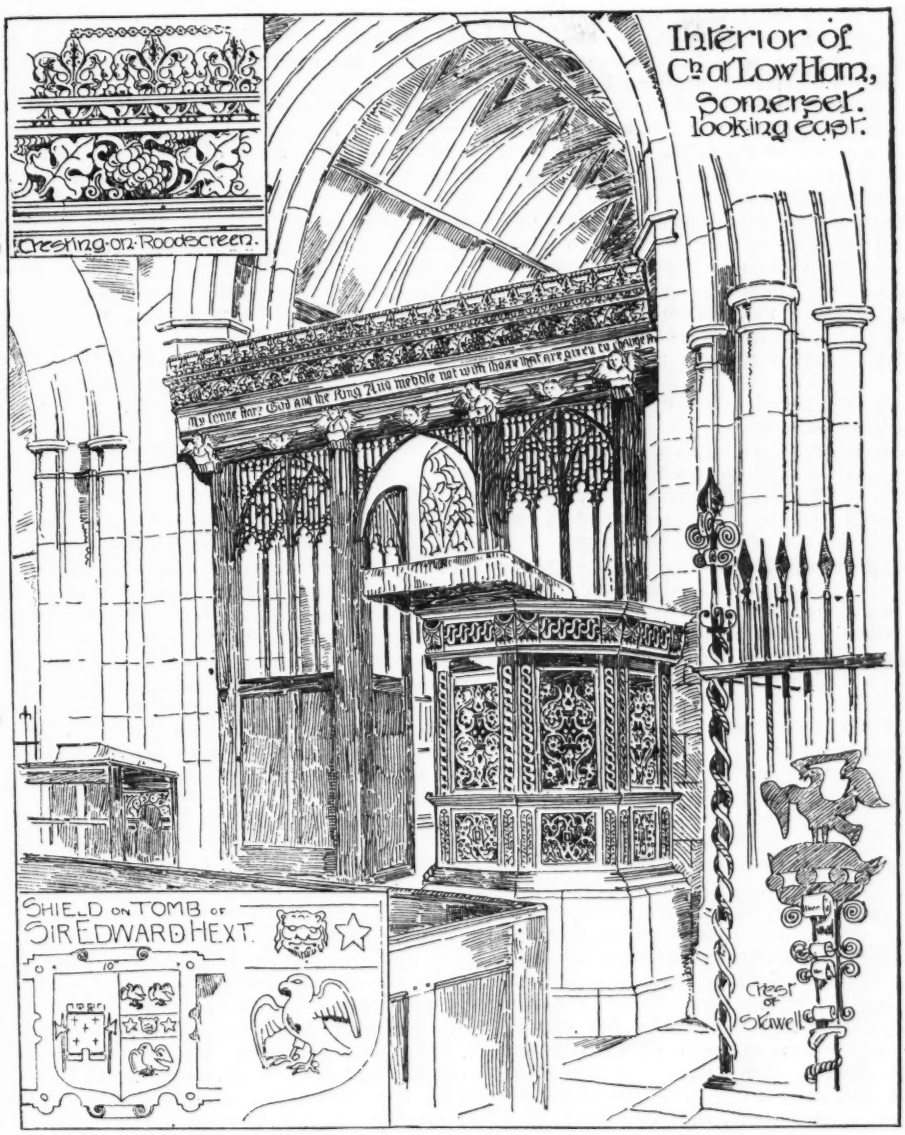











Interior of Ch. of Low Ham, Somerset. looking east.
Cresting on Roodscreen.
SHIELD ON TOMB OF SIR EDWARD HEXT.
Chest of Stawell

TWO SMALL SOMERSET CHURCHES.

AMONGST the more imposing examples in which Somersetshire is so rich, there are scattered up and down the county several smaller, and of more unpretentious exterior, which yield a rich harvest of architectural detail inside. Such are many of the coast churches, and also those which happen to have been built near, and formed an adjunct to, the manor-house; churches which have perhaps been built by its occupants, and been their burial-place for successive generations. The interesting church of Brympton D'Everey, near Yeovil, will at once occur to many as an example of this. Many of these churches have also been left much in their original state, partly, no doubt, by reason of their lying often out of the beaten track.

The churches here illustrated are two somewhat notable examples. One is practically a perfect specimen of the fifteenth century, the other a remarkable instance of an attempt to revive Early styles in Jacobean times, and both have good plans. The first—Swell—is about four miles west of Langport, on the Taunton-road. We give a small view and ground-plan. It lies, with the manor-house close by, at the bottom of the hill on which stands Burton Pyncent and its monument, and close to the edge of the moor. Walls of regular courses of lias, having plinths on the external faces, show pretty clearly the extent of the original surroundings of the house. The house has been a good deal pulled about, but still retains its windows and a good oak door. Like many others of its kind, it is now a farm; and a slate roof, of comparatively recent date, with eaves, probably takes the place of the former parapet.

The churchyard is immediately east of the house, with the church in its centre. At first sight the fabric appears entirely Perpendicular in date. The nave walls, however, appear to have been re-used, and the Norman south doorway, font, and bowl of the piscina in the chancel, have been retained. It is simple in plan,—a nave, south porch, chancel, and bell-turret over the west gable. The bell-turret seems late, an imitation of Early English examples, and containing two old bells. In the Perpendicular period the church was almost entirely rebuilt. A fine four-light window was placed in the west wall, and four two-light windows, with quatrefoils in the heads, in the nave; four more of similar pattern, but rather smaller in size, being placed in the chancel, and an east window of three lights. All these windows were filled with stained glass, a good deal of which remains. The lights of the nave windows were filled with quarries having the usual conventional foliage (see sketch), with borders of coloured glass—red and blue—varied at intervals with lion's heads and crowns. The quatrefoils were treated differently, some with foliage only, others with the sacred monogram, a sun, and a rose in the centre. Those in the chancel have suns and roses alternately. In the east window the tracery in the upper portion was occupied by four angels, with shields of arms. One only remains with the arms of the Beauchamp family—*vaire, within a bordure gules.*

On the floor immediately in front of the step to the sanctuary is the matrix of a brass—a figure in centre and a shield in each corner. The brasses were at no distant period

in the church chest, but have been removed. It is not mentioned by Haines in his book on brasses. Possibly it commemorated one of the Beauchamps, to whom the manor belonged. There are high pews, a Jacobean pulpit with some good panels, and some seats in the nave which, from their general design, may very possibly date from the time of the remodelling in Perpendicular times. The church is in a sad state of neglect, and the south wall is much out of the perpendicular, and if not shortly looked to will probably fall and ruin the building.

The second example, Low Ham Church—or "chapel," as it is sometimes called,—is about two miles north of Langport. We give a plan of it and a view of the interior. On approaching it the building looks peculiar, from the fact of its standing in a field which is some acres in extent, and, as at Swell, having extensive blue lias walls carefully built in regular courses, marking the ancient boundaries. It was also the chapel attached to the manor-house, but has been built in imitation of larger churches, with clerestory and aisles to the nave, and a western tower. At first sight it appears much earlier than it is. Most of the window-tracery takes geometrical forms, and the east window has a very elaborate form of "wheel"-tracery in the head. The architect seems to have gone out of his way to confuse the details of various styles, but he has certainly produced, especially in the interior, a very charming effect.

There were two families residing here, the Hexts and the Stawells. Of the Hext manor-house nothing seems left, unless perhaps an old house west of the church contains a portion of it. The Stawell mansion was begun on a large scale and never completed, and extensive remains of this building are still to be seen north of the church. On the outside of the clearstory are four good rain-water pipes, their heads (see sketch) being ornamented on the south side with the arms of Sir George Stawell and his wife, and on the north with an eagle, which occurs on the tomb of Sir Edward Hext. From this and from the position of the tombs inside, it may be inferred that the north was the "Hext aisle" and the south the "Stawell aisle." A door was apparently made on the north side of the chancel by Sir George Stawell, probably in connexion with his house, and the door-head is filled with his arms and supporters, and the letters G. S. On a scroll below the shield is the Stawell motto, "En Parole je sues." This door, as well as those on the west side, and to tower stair, has some good simple ironwork.

The interior of the church (see illustration) is very interesting. The rood-screen remains, with a rich cornice, the carving being a curious mixture of Classic and Gothic detail. The tracery at the sides, though now nailed up, was formerly made to open in two parts, like the doors, thus giving a better view of the altar from the body of the church. The curious inscription on the west face of the screen may possibly have been meant as a faint reminder of that battle of 1645 which was fought within a few miles of the church. The church, as a whole, indicates "the tendency of the High Church and Royalist party, as contrasted with the opposite leaning of the Puritan element in the National Church at the time."* The pulpit is elaborately carved, and the detail picked out in gold. It has been placed on a Ham stone base, and stands immediately in front of the screen at its southern end. The nave seats and prayer-desk are coeval with the pulpit, but are plainer in character. At the eastern ends of the aisles are the monuments to the Hexts and the Stawells. That in the north aisle commemorates Sir Edward Hext and his "virtuous lady," who died respectively February 22, 1624, and July 30, 1633. Two effigies recline on an altar-tomb with panelled sides, having the arms impaled on a shield in the centre. Sir Edward is in plate armour of the period, his head on a tilting-helmet ornamented with a plume of feathers. His wife has the usual ruffs round the neck and wrists, and wears one of the varieties of the French hood which were fashionable from the days of Elizabeth. These effigies are in fine preservation, and from the care and delicacy of the carving are probably faithful portraits of the deceased. The whole is surrounded by a wrought-iron railing of plain character.

In the corresponding position on the south side is the monument to Radolph Stawell, Baron Somerton, who died August 8, 1689, and his wife. It is a heavy mural monument of no particular artistic excellence, but is surrounded by a good wrought-iron railing, the centre being finished with the Stawell crest on a cap of maintenance. The east window is the only one which retains its original glass. Some cherubs in the wheel portion of the window-head are very beautifully drawn. A chair, apparently "made up," stands in the chancel, and has some good carving.

The nave arcade is of three bays with four centred arches, and imitation of Early mouldings in the abaci of the caps. Both arches and shafts are the same in section. On the exterior there are no buttresses or plinth on the south side, the reason probably being that it was only finished on the side facing the approaches from the house and road. As the ground slopes upwards considerably from north to south, the extra support was dispensed with on that side.

Not far distant is the more elaborate church of High Ham, which is also well worth visiting for its screen and painted roofs.

* Som. Archl. Proceedings, 1861.

NOTES.

WE print in another column a letter from Mr. Wyatt Papworth concerning the addition of a gallery round the Rotunda Room at the Bank of England, under the dome, and cutting across the niches which formed part of Soane's architectural scheme. He asks, "What is the use of having good work in a city, if it is to be damaged in this manner"? Without feeling too much enthusiasm for Sir John Soane's niches, which are not a very recondite form of architectural expression, we certainly consider that the Bank of England is a sufficiently notable and, in its way, unique architectural monument, to make it a matter of some importance that its design should not be interfered with or altered without very decided practical necessity. From inquiries at the Bank we learn that the gallery is absolutely wanted for the storage of books; it does cut across the niches, and is to have a light iron railing of simple and graceful design round it. If the space is wanted for the business of the Bank, and cannot be found anywhere else, we presume there is no help for it; but it seems a pity that the addition could not have been managed so as to fall in with the design of Soane's Room, in arrangement and character of detail, instead of interfering with it.

A FEW days ago we read a remark in the *Athenæum* to the effect that—

"Visitors to Westminster Abbey now find themselves barred out from the chapel of St. Paul, on the north side of the apex, and the place carefully screened with sacking lest they should see into it. This is to prevent them missing the tomb of Sir Giles Daubeny, one of the most interesting, after the royal tombs, in the church. It has been pulled down and taken away, and a new one is being made to put in its place. This is no ordinary piece of barbarism. It is the first attack of the 'restorer' upon that marvellous store of old English monumental art which has made Westminster Abbey famous amongst the churches of the world, and the like of which no other country can now show."

Now, the zeal of our esteemed contemporary has certainly run away with its discretion in speaking so strongly. We have been at the trouble to ascertain the facts from those best able to give them. It appears that the representatives of the Daubeny family have been desirous for some time to repair the tomb, which they considered to be in a very unsatisfactory and neglected condition. The surfaces on the south and west end were so far decayed as to leave little trace of the details that had been on them. The tomb was originally designed for one effigy only, that of Lady Daubeny, but after Sir Giles's death it had to be taken to pieces for his burial within it, and then her effigy had to be moved to one side to make room for his, and the re-building of the tomb was very clumsily done. The first intention was to re-work the details on the old sides and ends, resetting them in their proper positions; but they were found to be too much decayed to allow of this. The old verge or slab will, however, be replaced with the two effigies on it without any alteration, and all existing traces of the ancient colouring on them will remain untouched. The railing which surrounded the tomb was removed not many years ago, when many other tombs were deprived of their iron fencing; but an accurate drawing of this railing exists which will guide the preparation of a new one. It is intended to place an inscription with the date on this railing to describe what has been done to this tomb, and the greatest pains will be taken to prevent any possibility of confounding what is new work with what is old. Can more be expected? Does our contemporary mean to assert that the modern representatives of an ancient family are not justified in repairing and re-embellishing the monuments of their ancestors? That is what has generally been considered to be a pious work. We quite agree with the *Athenæum* that if restoration "is allowed to run riot amongst the monuments in Westminster Abbey," the result would be deplorable; but is such a treatment of an ancient tomb as we have described to be called "restoration running riot"? This is the way the opponents of restoration too often injure their own cause by making out things to be worse than they really are.

WE have received a copy of Dr. Blaxall's report to the Local Government Board on an epidemic of diphtheria in the Urban Sanitary District of Midsomer Norton, Somersetshire. We propose to give publicity to the stated causes of disease, as briefly as may be, in any such reports which are sent to us, so that those of our readers who are practically interested in sanitary progress may have information as to places where sanitation is neglected. We give the following quotations from Dr. Blaxall's report:—

"The village of Midsomer Norton, with which this report is mainly concerned, stands on the new red marl in a valley, having a wide brook, the 'Somer,' running down the side of the main street. The water supply is derived chiefly from springs at Chilcompton, the water being brought down by gravitation and pretty generally distributed throughout the village. I met, however, with instances where families were dependent upon wells for their drinking water, or upon springs which, in the hot season, were liable to run dry; as, for example, at Clay Batch, where the occupants of seven dwellings are put to great straits in the summer to get water for their daily use. Some of the wells are evidently exposed to dangerous pollution, as at Rackfarnal Villas, where the water is derived from a well sunk about 12 ft. or so from a privy cesspit; and again, at Gunning's Houses, where a butt-ended stop drain runs close to the well. Excrement removal and disposal are mainly effected by sewers, but the drains of closets are habitually unprovided with means for flushing, except by hand-labour, and this is not infrequently neglected, with the customary result of blocking the drains with decomposing excrement. Further, bad examples of cesspit privies came under notice in the village and elsewhere. The system of sewers consists of brick culverts and glazed pipes. These latter are laid with clay joints, and the Surveyor tells me the Authority are now experiencing trouble from the sewers opening at the joints and taking in subsoil water. The sewage is disposed of by filtration, and the effluent water discharged into the brook, which then continues its course to Radstock, where the Radstock Authority complain that its polluted condition causes considerable nuisance. To remedy this evil the Midsomer Norton Authority applied to the Board for powers to borrow money to carry out projected improvements, and the Board has held inquiry on the subject. The ventilation of the sewers is very inefficient; when first laid down street ventilators were provided, but these have been done away with, and 2-inch shafts substituted, and of these only seven have been provided for some two miles of

sewers. Removal of house refuse is left to the householders to carry out, and is not infrequently neglected, as evidenced by the accumulations met with at various places in the course of my inquiry."

The points we would draw special attention to in the above extract are the trouble caused by clay-jointing the drain-pipes (an old crusted receipt which is constantly producing ill effects); the leaving of the flushing of closets to hand labour; and the contiguity of the wells to drainage cesspools,—a piece of slow suicide so constantly practised in rural districts.

EARLY next month there will be opened, in the galleries of the Royal Scottish Academy, an exhibition of decorative handiwork. The scheme has the support of the Board of Manufactures and of other public bodies and private individuals connected with art and commerce, and its object is "to further, in a practical way, the education both of workers and the public, and so to promote a purer taste and better application of what is really good in the important branches of industry that connect themselves with art." Prizes will be given for carving in wood, marble, stone, and plaster, metal work, mosaic, embroidery, painted decoration, bookbinding, turnery, &c. There will also be a loan collection of "standard examples in the various special forms of work in which competitions are held." "Work submitted in competition must, in every case, be solely the work of the competitor, and originality of design will be considered in judging the merit of works submitted in competition." A series of lectures will be given bearing upon the objects of the exhibition, with, where possible, practical illustrations of the *modus operandi* of the workman. It is stated that several offers of excellent materials for the loan collection have been made, and there is every probability of the exhibition proving advantageous both to the handicraftsman and the public.

WE may draw attention to a letter in this week's issue, written by a member of the Architectural Association, under the signature "Αρχιτέκτων," urging the advisability of establishing a residential college for young architects who come up from the country to study in London. Some readers, we fear, will know very well what our correspondent means in regard to the dullness and depressing effect of life in London to those who come up to London for purposes of study, with no friends, and a very limited income. The establishment of a place of residence for such would probably tend to economy of resources, and would have the even more valuable result of giving the cheerfulness and interest in life arising from mutual society, in place of long, monotonous evenings in dull lodgings. The idea is certainly well worth practical consideration, and we hope the letter of our correspondent may lead to some useful result.

EACH new guide-book to Athens that appears is necessarily a small archæological compendium. The guide "Johanne,"* just published by Hachette, is no exception, and, as an archæological compendium, it must briefly be noted here. We may at once say that, archæologically, it stands midway between the now wholly obsolete Murray and the remarkably alert and complete Baedeker. Any one now starting for Greece will do well to read his Murray if he have time and money,—it is long and costly,—before he starts, he will thereby fill his mind with excellent references and abundant appropriate quotations, from Pausanias to Bishop Wordsworth. Then, if he fear the question of excess luggage, let him leave it behind. On the spot he will find it worse than useless. He must choose between the new Johanne and Baedeker, — either equally handy, — but Johanne contains Athens alone, Baedeker all Greece proper. So many English-speaking tourists read French and not German that Johanne is sure of many purchasers; but let those who have their German keep to Baedeker. It is vexatious to find in 1888 a description of the Erectheion based on Teyas's work in 1851. It is still more astonishing, when all archæological Europe has been agog on the subject of the Dionysiac theatre, to find not so much as a hint of Dr. Dörpfeld's discoveries. Even the tourist, especially if he be an American, is annoyed not to be posted up as to the latest news. As the book is French, it is, perhaps, needless to add that the exposition even of complete errors is lucid, and the plans, even when inadequate, are lucid.

* (B. Haussoullier's "Athènes et ses Environs: Collection des Guides-Joanne." Grèce I. Paris, 1888. Hachette, xxxiii., 216, 8. 8, 4, Karten. 10, Pläne. 12 fr.)

ADVERTING to the Note in our issue of the 29th ult. as to the alterations being made in the Victoria Fountain, erected in Victoria Park, Hackney, at the expense of the Baroness Burdett-Coutts, we observe now that, under the directions of the Metropolitan Board of Works, the whole surface of the Aubigny stone facing above the arches, including the elaborate carving, has been scraped and rubbed, so as to remove the natural protective skin caused by the drying-out of the quarry sap, and to expose the stone to the weather in a way which must hasten its decay. Shall we not soon require a Society for the Preservation of *Modern* Buildings?

POORE'S "Manual of Railways for 1888," recently published, shows that in the twenty-two years from 1865 to 1887 the average rates of freight in America were reduced to about one-quarter of what they were in the former year, the decrease being a steady one throughout. Dividing the system into two groups, we find that in the Eastern group the rate per ton per mile was reduced from 2·900 cents to 0·718 cents (touching as low as 0·636 cents in 1885); while on the Western lines the rates fell from 3·642 cents to 1·014 cents. It is still more interesting to notice that there has been a concurrent steady increase in the aggregate freight carried, and that the heavier tonnage more than compensated for the reduction in rates. There are no data for determining how far the reduction in freight has affected the *net* earnings per ton per mile further back than 1884, but they have not fallen during the last three years, in spite of a reduction in rates of about 3 per cent. on the Eastern and 17 per cent. on the Western lines. Of course, while this proves that traffic is stimulated by cheaper rates, it must be allowed that circumstances hardly warrant our looking for equally favourable results from reduced rates in England,—our traffic being carried under very dissimilar conditions. The American railways have a great advantage in receiving so much of their traffic in train-loads, which swells the average load per truck. Our average truck-load of about two tons is laughed at, but large consignments are comparatively few and far between. Mr. Jefferds, C.E., writing to a contemporary, asserts that our tonnage would be more than quadrupled by reducing freights one-half, as a profitable market could be found for many articles which can be produced in England, which are now shut out from the markets of the world owing to high transport rates. He quotes statistics from the returns of the Chicago and North-Western Railroad, which has reduced its freights from 1·42 cents in 1882 to 0·99 in 1888, and whose last dividend was 6 per cent. Mr. Jefferds appears to have a firm conviction that the salvation of our lines depends upon the adoption of the bogie-truck cars, and we learn from the communication alluded to that Sir James Ramsden has imported some trucks of very high carrying capacity,—probably of a similar type to those recently on view at St. Pancras,—for use on the Furness Railway. These trucks are largely made of steel, which, as it has already displaced iron in the construction of rails, seems not unlikely to supersede wood for sleepers. We have before alluded to the great reduction in non-paying weight requiring to be hauled by the adoption of this system, and have no doubt that the example set by the Midland and Furness Railways will soon be followed, if their experiments prove successful.

LONDON is this week undoubtedly richer by one fine statue; for the bronze figure of General Gordon, in Trafalgar-square, is a fine one, not merely as London statues go, but intrinsically. It is altogether out of scale with the neighbouring figures of Napier and Havelock, and the pose is wanting in the dignity for which one looks in the statue of a national hero; but it is a real work of art nevertheless. Portraiture seems to have been the aim of the sculptor rather than any heroic ideal representation of the man. The figure stands upon the right leg in a natural attitude, the left arm is crossed over the waist, and the hand, holding a Bible, supports the elbow of the right arm. The head is a little bent, the chin resting upon the closed fingers of the right hand. The well-known features are lit up by a slight smile, and the calm eyes gaze at the spectator with an expression it is very easy to fancy is cynical. The proportions and easy attitude of the figure are as expressive of physical power and activity as the countenance is of contemplation. The military character of the hero is amply shown by the undress uniform of a field officer which he wears complete to the glasses and cane, and by a broken mortar upon which the left foot rests,—a piece of artistic "property" rather unworthy of the sculptor. The pedestal is enriched on the right and left sides by bronze panels in low relief, the work, like the figure, of Mr. Hamo Thornycroft. The panel on the left of the statue, with the figures of Charity and Justice, was exhibited at Burlington House this year, and was commented on by us at that time. The other panel is less interesting on the whole, but the two female figures symbolical of Fortitude and Faith that fill it are beautiful things also. The first, strong and calm, holds a sword in the right hand, and a shield in the left bearing the words "Right fears no might." Faith, with a cross on her breast, raises her eyes and hands, and gazes upwards from under a veil. The pedestal itself is a vast improvement upon the usual thing, but it is rather unhappily proportioned at the base. The two steps, forming a sort of podium, should be much larger, and the great hollow above them is out of scale. The cornice is much better, but it projects too much, and we could have very well dispensed with the rather commonplace wreaths of bay that surmount it. The front panel of the pedestal bears the simple inscription: "Charles G. Gordon, C.B., Major.-Gen. Royal Engineers, killed at Khartoum XXVI. January, MDCCCLXXXV." It is surely a great mistake to have put this fine work just behind the Nelson Column.

THE Canongate old cross, Edinburgh, which has for a lengthened period been fixed against the wall of the Tolbooth, is to be placed on a pedestal in the recess opposite the Parish Church. The pedestal upon which stood the Edinburgh "Market Cross," prior to its restoration, is to be utilised for the purpose.

WE have made some remarks which have been rather resented in some quarters, as to the issue of a circular of "General Advice" on Restoration in the name of the Institute, and which we said was obviously not in a true sense the opinion of the Institute, but only that of a small number of architects holding special views on church restoration. We print in another column a letter from Mr. Lacy Ridge, whom every one will admit to be an energetic and able member of the Institute, which entirely confirms what we said, that the document put forth as the opinion of the Institute on Restoration has no proper claim to that title, and does not really represent the opinion of the Institute as a body. Mr. Ridge comments strongly on this way of doing things, and not without reason. If it was considered inconvenient

to submit the question to a general meeting, at all events it would have been easy to describe the document as what it really is, the opinion of the Art Committee of the Institute; then the true authority attaching to the document would have been known, and no one could have complained of being misrepresented.

HYDE PARK CORNER.

Miss Emily J. Wood has presented to the National Gallery two highly-interesting paintings of Hyde Park Corner. They serve as a record of some of the manifold and generally forgotten changes that have passed over that quarter within the last hundred years. The earlier one is labelled "Unknown—eighteenth century (?)"; the other, "By James Holland—b. 1800, d. 1870." Both are drawn from the same spot, a few yards west of the crossing to Grosvenor-place, looking down the incline of Piccadilly. In the former we see the turnpike, with its two lodges and central array of eleven lamps, portions of the two park walls, old Apsley House, and, in the foreground, the eastern wing of St. George's Hospital. The latter two buildings are of red brick, as also are the Park walls. The turnpike was transferred hither from the southern end of Clarges-street in 1761. It then consisted of a toll-house on the southern side of the road, three swing-gates, and two turnstiles on the footpaths. About thirty years later the toll-house was replaced with two lodges, as designed by H. Holland, placed in the roadway, two side-gates, and railings instead of the turnstiles. This is the turnpike which we see in the picture. In 1825 was passed an Act for the abolition of certain toll-charges. On Tuesday, October 4, of that same year, were sold by auction the Hyde Park Gate with its "engine-house" and weighing-machine, in twenty lots; the toll-house and lamp-posts, in seven lots, by Loudoun's old Chelsea Bun House, which, together with its "museum of rarities," in rivalry to Don Saltero's, met a like fate on April 13, 1839; and, in seven lots, the weighing-machine and toll-house by the wooden bridge across the Grosvenor Canal at Jenny's Whim Tavern and Tea Gardens, which was opened *temp.* George I., by the end of Buckingham Palace (*olim* Chelsea) road. A woodcut of the sale, by Abbott, at Hyde Park, will be found in Hone's "Everyday Book," vol. i., cols. 1,357-8. It seems that the Hyde Park Gate was succeeded by a turnpike at Albert Gate, Knightsbridge, which was there as late as 1856, *teste* a water-colour view, of that year, by T. H. Shepherd.

St. George's Hospital was opened for patients on January 1, 1734. In a statement of the Governors' proceedings from their first meeting, on October 19, 1733, to December 29, 1742, we read:—"This Undertaking was set on Foot soon after *Michaelmas*, 1733, by some Gentlemen who were before concerned in a Charity of the like kind, in the lower part of *Westminster*," &c. Having taken a lease of what Pennant terms Lord Lanesborough's "country house," whose main front faced northwards towards Hyde Park, they added thereto an eastern and a western wing, after I. Ware's design, as shown in his own contemporary print. Wilson's view (1746) of the old building is preserved at the Foundling Hospital; in the "Crowle" Pennant, Museum Print Room, is a copy of Dagaty's print, published by R. Ackermann, on August 1, 1797. In this print should be noticed Collier's big Southampton coach, on eight wheels. The hospital assumed its later aspect mainly at the hands of W. Wilkins, R.A., in 1828–30. The new southern block overlooks the sites of the old Lock Hospital and of Tattersall's yard, together with the "Turf" tavern, at end of the yard. The two pictures under review represent these two stages of the hospital's structural history. Richard Tattersall, stud-groom to the Duke of Kingston, began business here *circa* 1775. In 1865, "Tattersall's," together with the fox and other relics, migrated to Knightsbridge-green.

We will now say a few words about the mansion which Arthur, Duke of Wellington, occupied for more than thirty years, and would never, either verbally or in his correspondence, designate as Apsley House. Writing of Piccadilly, Pennant says (1795):—"The north side only consists of houses, most of them mean buildings; but it finishes handsomely with the magnificent new house of Lord *Bathurst*, at *Hyde-park corner*." The mean buildings were for the most part survivals of the various inns and statuary, or figure, yards that had formerly ranged along this side of the then Portugal-street. One of the inns, or posting-houses, was the "Hercules' Pillars," commemorated by Fielding and Wycherley. Two others have given names to Half Moon and White Horse streets. Separated from the "Hercules' Pillars" by a block of three small tenements stood, next to the Park gate, the apple-stall of James Allen, the Dettingen veteran, upon whom, in 1750, George II. bestowed the fee-simple of his lodging. By letters patent of May 3, 1784, the king gave a grant of the ground here to Henry, second Earl Bathurst, who, on appointment as Lord Chancellor, had been elevated (January 23, 1771,) Baron Apsley of Apsley, Sussex. Thereupon Lord Bathurst set about the building of a town house, for which he ultimately employed the brothers Adam. It is said that, having omitted to clear his title to the land on which he began with the stables, he had to compound with Allen's representatives for a payment of 400*l.* (or 450*l.*) a year; and, moreover, that—a warning to lawyers who meddle with architecture—he made no provision, in his own designs, for a staircase. Lord Bathurst died here in 1794. In 1810, his son and successor sold the house to Richard, 3rd Earl of Mornington, who had been created Marquis of Wellesley for his eminent services as Governor-General in India, where he defeated Tippoo and overthrew the empire of Mysore. In 1820 the Marquis made over the house, by sale, to his younger brother Arthur, who, on May 3, 1814, was created Marquis of Douro and Duke of Wellington, having within six years been raised to every rank in succession of our peerage. Eight years later the Duke employed Messrs. S. & B. Wyatt in altering the house by the additions of the tetrastyle portico, the "Waterloo" gallery, and other apartments along the western side, the conversion of the attic story, &c., and the casing of the whole with Bath stone. These changes and purchase involved him in a total expense of 130,000*l.* On 15th June, 1830, the Duke paid 9,530*l.* for the Crown's interest in the house; "the Crown," says Cunningham, "reserving a right to forbid the erection of any other house or houses on the site." The historic iron shutters were fixed to the windows after an attack by a mob of "Reform" rioters in 1831. Removed by his successor they were kept there by the Duke "as a monument of the gullibility of a mob . . . . if any one be disposed to grow giddy with popular applause, I think that a glance towards those iron shutters will soon sober him." We may recall, too, how in his last delirium Scott repeated the "Burk Sir Walter!" with which he was assailed at Jedburgh.

The iron bullet-proof shutters do not appear in Holland's painting. So, since he shows Wilkins' hospital and Decimus Burton's Ionic screen and triumphal arch, it is clear that this view was taken during the interval 1828-1830. As herein depicted, a trophy of arms surmounts the middle gateway of the colonnade; the opposite arch, at Constitution Hill, carries Britannia with six other figures—being ten in all—upon the entablature, and a quadriga, the horses to the north, upon the pedestal. M. C. Wyatt's colossal equestrian group was drawn hither with a military escort on September 30, 1846, from his foundry and studio at Dudley Grove House, Paddington.* In an article upon the contents of Apsley House, its collection of paintings, statues, and the like, and Colnaghi & Co.'s ten lithographic plates of the interior, the *Quarterly Review* of March, 1853, writes:—"It has not perhaps been generally observed that on fine afternoons the sun casts the shadow of this equestrian figure full upon Apsley House, and the sombre image may be seen gliding spirit-like over the front."† But all this is a tale of the past. Mr. Shaw-Lefevre's presidency at the Office of Works has been marked by some egregious blunders—as, for instance, at the Tower and Westminster Hall—under the sacrosanct name of restoration. To these may be added the transferrence of the arch from where, though in itself but a poor adaptation of the Porta Aurea at Pola,‡ it ranged well with the buildings around, to its new situation. On February 10, 1883, we published an illustration to show the arrangements for lowering the statue through the arch—an operation that was begun in the morning of Wednesday, January 24, 1883, under Mr. Reade's superintendence, and in the presence of Mr. Shaw-Lefevre and a few favoured guests. The sombre image now glides over Aldershot, where the figure was set up on a pedestal designed by Mr. R. W. Edis, the Government having contributed 6,000*l.* towards the cost of transport.

* All, except the copper plume, is of gun-metal, varying from ⅛ in. to 2½ in. in thickness. The horse's legs are solid The Duke's head and body, and the horse's tail and head are rivetted on; the other pieces were forged together. The hat is 4 ft. long by nearly 2 ft. high. In the plume (which, by the way, the Duke did *not* wear at Waterloo) was found a bird's nest. Copenhagen died in 1836.

† By a singular coincidence, in another article of the same volume is cited Napoleon's exhortation to the Grand Army in Spain to plant its standards on the Pillars of Hercules.

‡ *Vide Builder*, September 25, 1886.

A GERMAN AUTHORITY ON TOWN SANITATION.

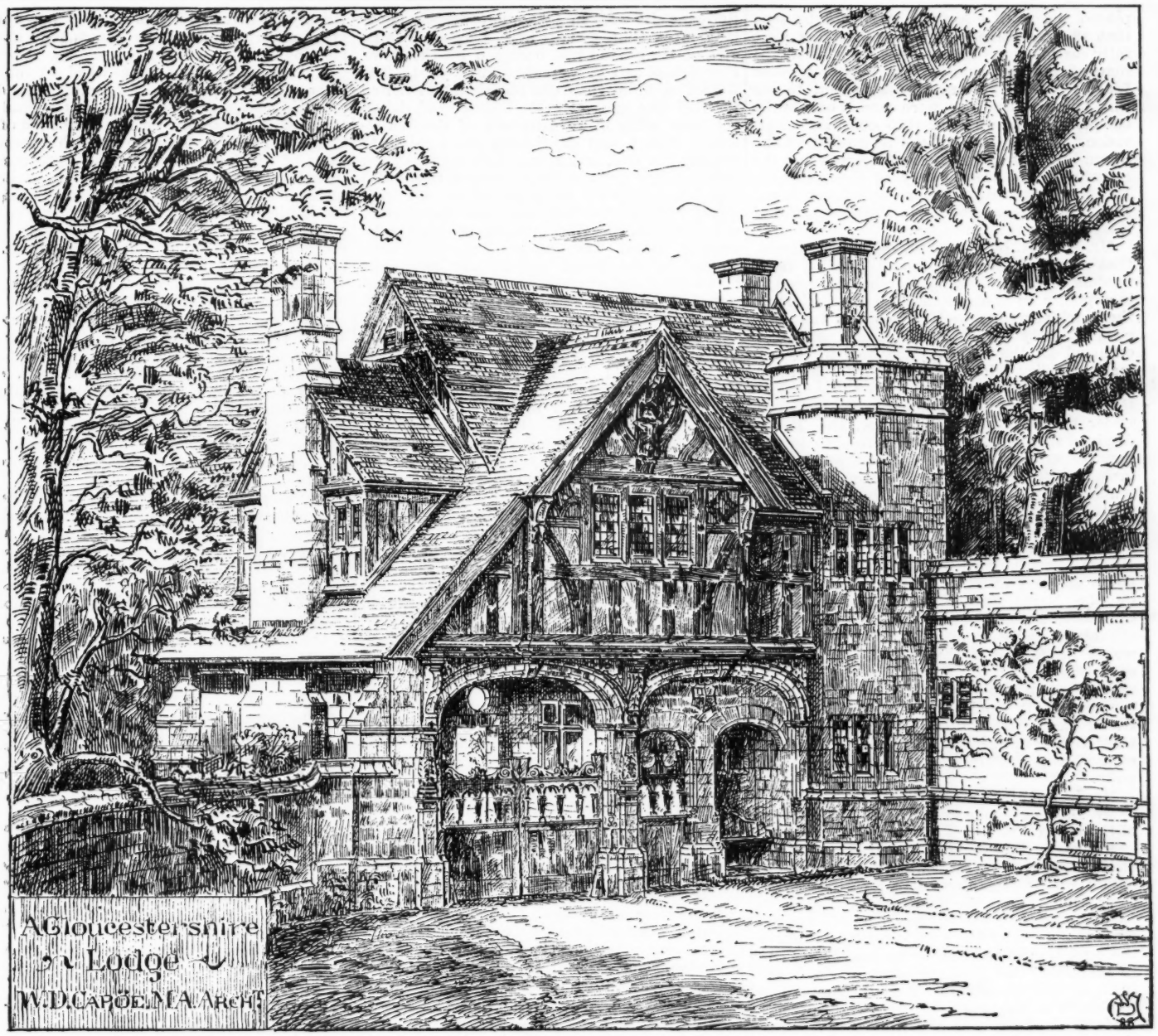
Subjoined is a translation of a letter, under date the 12th inst., addressed to Mr. Charles Hancock, F.S.S. and Fellow of the Sanitary Institute, by Dr. Karl Mittermaier, Physician and Sanitarian in Heidelberg, relative to the paper published by the *Builder* in its issue of the 6th inst.:—"I have the honour," writes Dr. Mittermaier, "to reply to your questions in the following way. First, as regards Prof. Alexander Müller, he is recognised as an eminent specialist in Germany in matters of town sanitation; and only those can doubt his competency and the paramount importance of his judgment who would rather have their own preconceived notions confirmed than seek to arrive at the real truth. If Professor Müller looks upon the success achieved by the Berlin irrigation system in a less favourable light than do those who originated it, it does not seem allowable, in my opinion, to set such a judgment of his aside, critical though it may be. According to my experience and observation, of many years' standing, concerning the various and most opposite methods of sewage-disposal, I, too, have arrived at the opinion that there is room for doubt as to the efficacy, for *inland* towns, of the English system of flushing sewers, and that it is better to keep all human excreta, so far as practicable, out of the sewers. Neither the chemical treatment of liquid sewage, nor irrigation or filtration through land, appears to me to be sufficient for sanitary and agricultural purposes. We have, therefore, made the experiment, for years, here in Heidelberg, of introducing an improved pail-system, and we believe we are thus on the right track. The sanitary and financial results of it are favourable in every way.

Heidelberg, it is true, is a small town; but the experience made with the pail-system—even in large towns, such as Graz (Austria), Augsburg (Bavaria), Görlitz (Prussia), Gröningen (Holland), and other towns—is equally satisfactory. In Manchester, too, the pail-system is in use on a large scale, as I myself know from having personally visited the spot on various occasions; and in a sanitary sense it has had an excellent result there. I enclose a report on the Heidelberg system, entitled "Die Reinigung der Stadt Heidelberg vermittelst tragbarer und fahrbarer Tonnen," a report which was submitted by our town's Sanitary Council to the International Health Congress at Vienna last year."

We cannot but observe, however, that Dr. Mittermaier says nothing whatever, in this communication, about the manner in which the contents of the pails are ultimately disposed of, which may be said to be the most important part of the problem.

The Gordon Statue, Trafalgar Square.—On Tuesday last the Gordon Monument in Trafalgar-square was unveiled by Mr. Plunket, First Commissioner of Works, without formality of any kind. The cost of the monument was voted by Parliament soon after Gordon's death, and the commission to execute it was given to Mr. Hamo Thornycroft, R.A. The monument is altogether 30 ft. high, and the statue itself is 10 ft. 6 in. high. The latter is of bronze; the pedestal is wrought in hard Derbyshire limestone, standing upon two granite steps. In designing the pedestal Mr. Thornycroft is stated to have had the assistance of Mr. Alfred Waterhouse, R.A. The panels represent Fortitude and Faith, Charity and Justice. Some remarks on the work will be found in another column.

A Relic of Old London.—Mr. A. Oliver informs us that the carved red lion which was to be seen a few years ago at the corner of an old timber house in Holywell-street, Strand (the house has been demolished), has been placed in the Guildhall Museum.



A GLOUCESTERSHIRE LODGE.

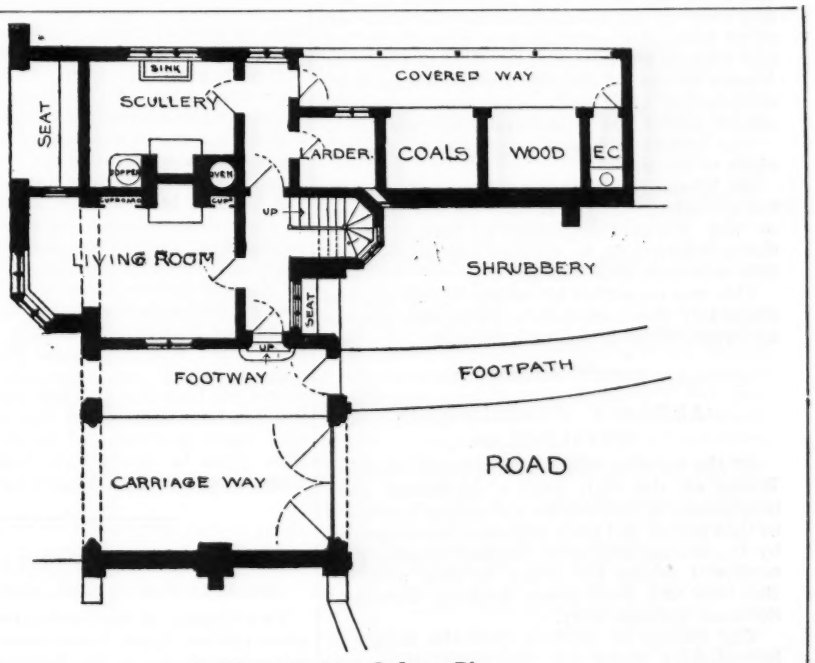
THIS lodge was designed for Tortworth Park, Gloucestershire. The materials are old red sandstone in the walling, and Bath stone dressings, with red tile roofs. The architect is Mr. W. D. Caroë.

The drawing from which the view is taken was exhibited in the Royal Academy of this year.

TENDERS AT SPRING GARDENS:

ANOTHER SEWAGE SLUDGE SHIP TO BE BUILT.

AT the meeting of the Metropolitan Board of Works on the 12th inst., the Works and General Purposes Committee reported that in compliance with the resolution of the Board at its previous meeting, they had further considered the recommendation, which they then submitted, that the tender of Messrs. Green for the construction of the second sludge vessel should be accepted. On the above date a letter was received from Messrs. Green, stating that there were several clauses in the specification which they did not see their way to accept, and that other objections had been raised by their Engineer of so serious a character that they were compelled to withdraw altogether. A further letter had been received from Messrs. Green, pointing out the clauses in the specification to which they took exception. There were three tenders—that of Messrs. Fleming & Ferguson, amounting to 24,750*l.*, being the next lowest. It was pointed out, however, by the Engineer, that this tender was incomplete, and, under all the circumstances, it appeared to the committee hat the proper course would be to accept the remaining tender—namely, that of the Naval Construction and Armaments Company, Limited, amounting to 24,785*l.*, and the committee recommended in accordance with this view.



A Gloucestershire Lodge.—Plan.

Mr. E. R. Cook moved the adoption of the report, and observed that the committee felt, after the letters from Messrs. Green, and finding the second lowest tender also informal, that there was no other way of dealing with the matter than to accept the tender of the Naval Construction and Armaments Company, which was in perfect order. In addition to this, the sum asked by this company was not much above the other tenders.

Mr. Lenanton said he was unavoidably absent when the matter was discussed at the Works Committee's meeting on the 8th inst. He had been informed that some of the clauses of the specification for the vessel were most unusual, and so stringent that it was impossible for any shipbuilder to carry them out in their entirety. If that were so, then he considered Messrs. Green had come to an honourable conclusion in withdrawing their tender, and if the Board now

placed the work elsewhere it should be seen that the conditions of the specifications were fully carried out. He also thought it should be remembered that while in the Port of London Lloyd's surveyors were always present to see that the specifications were carried out, in the out-ports there was not that constant supervision. The Engineer of the Board had no one to send there, and the consequence was that the Board would be at the mercy of the company. He (Mr. Lenanton) therefore asked the Board to pause before agreeing to the acceptance of the tender as recommended.

Mr. Mark H. Judge moved, as an amendment, that advertisements be issued inviting fresh tenders, and that the Engineer be instructed to incorporate in the specification particulars of the machinery required. This was the most unsatisfactory piece of business that had occurred at the Board since he had been a member. To begin with, the Board called in a naval expert to advise them on the specifications, and when the tenders were obtained under the naval expert's advice, the Board declined to make any further reference to the naval expert under whose advice they had got into the difficulty. The Engineer, after the tenders had been referred to the Works Committee, reported that in two of them the specification had not been properly complied with in every respect, and pointed out that Messrs. Green's tender was for machinery of less power and less satisfactory than that provided by the Naval Construction and Armament Company, and suggested that Messrs. Green should be asked what the difference of cost would be for adding to the power of the engines. The result of that inquiry was not placed before the Board, but he (Mr. Judge) found that it would have increased Messrs. Green's tender by 220*l.*, which would still leave their tender upwards of 1,500*l.* lower than that of the Naval Construction and Armament Company.

Mr. J. R. Jolly seconded the amendment.

Mr. Lindsay spoke in favour of the adoption of the report.

Mr. Richardson thought the tenders should, at least, go back to the committee for them to obtain Messrs. Green's reasons for withdrawing their tender. Were the Board prepared to spend 1,000*l.* more than was necessary on the vessel? Even if the tender was a little more, he thought the work should be given to the metropolis, and he contended that it was the duty of the Board to do so, and not to throw away their money in the North of England.

Mr. E. R. Cook said Mr. Barnes, the Naval Engineer, was called in as professional adviser, and drew up the specification in the same way as all Admiralty specifications were drawn up, and without the advice of the Board's Engineer. Messrs. Green did not sign the specification accompanying their tender, and when asked the reason, said it was intentionally left unsigned.

The amendment was negatived by twenty-eight to seven.

Mr. Richardson then moved, and Mr. Lenanton seconded, that the matter be referred back to the Works Committee to invite Messrs. Green before them to give an explanation why they withdrew their tender.

This was negatived by twenty-one to six, and ultimately the committee's report was adopted by twenty-three to six, on a division.

ARTISANS' DWELLINGS IN SPITALFIELDS.

At the meeting of the Metropolitan Board of Works on the 12th inst., a deputation from inhabitants of Spitalfields and others interested in that parish and parts adjacent (accompanied by Dr. Billing, Bishop of Bedford) presented a memorial asking the Board to deal with the Bell-lane and Pearl-street Artisans' Dwellings Schemes without delay.

The Bishop of Bedford (late the Rector of Spitalfields) spoke for the deputation, and observed that he had no complaint to make against the Whitechapel Board of Works, which had carried out its duty to the utmost in its power to blot out the existing evils. The local Board had insurmountable difficulties in their way because of the owners of property refusing to do what was necessary. He specially called attention to the density of population of the district. For instance, the density of population of the metropolis was 50 per acre, Whitechapel 176 per acre, Spitalfields 286 per acre, Bell-lane area 600 per acre, and the Pearl-street area 500 per acre. The Bell-lane site was, in fact, more densely populated even than 600 per acre, because a large area of the ground was occupied by the Jews' Free School and by a great omnibus yard. The Board, on more than one occasion, had visited the Bell-lane area. He (the Bishop) had visited the area with other members of the Whitechapel Board, and done what was possible to remedy the evil, and it was now asked by the memorialists that the Board should, in the Bill now being prepared for presentation to Parliament, include this Bell-lane and Pearl-street areas as localities that should be dealt with without delay. The ground that had been cleared by the Board had already been built over with statutory dwellings for the poor, and were already, for the most part, occupied, and to complete the scheme it was necessary that the Bell-lane area should be dealt with. Any one, he added, who knew that part of the metropolis could not help feeling that the Metropolitan Board of Works had done in that locality, in conjunction with the Whitechapel Board, work which would always redound to its credit. The Metropolitan Board had there made magnificent provision for the labouring classes. Were the members of the Board to visit the Pearl-street area, he was sure that, although they would commend what the Whitechapel Board had done to mitigate the evil, they would say that such a state of affairs should not be allowed to exist in a civilised country.

The memorial was referred to the Works and General Purposes Committee for consideration and report.

COMPETITIONS.

Church of St. Hilda, Millfield, Sunderland.—The design submitted by Mr. H. T. Gradon, A.R.I.B.A. (of the firm of Alexander & Gradon, architects, Middlesbrough), in open competition for the new Church of St. Hilda, Millfield, Sunderland, has been selected by the committee out of twenty-three designs submitted in the competition. Mr. Ewan Christian, architect to the Ecclesiastical Commissioners, acted as adjudicator. The church is designed to accommodate over 500 persons, and will cost about 3,000*l.*

Restoration of Milan Cathedral.—Readers of the *Builder* will remember that, of the 129 designs sent in in the spring of last year to the preliminary competition for the restoration of the façade of Milan Cathedral, fifteen were selected, the authors of which were invited to a second competition. Their amended designs, or rather the designs of fourteen of them (one of the original competitors having since died), are now on view at Milan. A correspondent of the *Deutsche Bauzeitung*, who has seen the designs, states that the exhibition made a great impression upon him. All the competitors have evidently endeavoured to do their best, and although some of them have scarcely excelled their previous performance, others have been more successful in their new work. Nearly all the authors have adhered to the original ideas of their designs, confining themselves to elaborating them more or less in their details. After criticising the several designs, the correspondent of the *Bauzeitung* gives it as his opinion that victory will probably incline towards the work of Signor Brentano, of Milan. But he doubts very much whether Signor Brentano's design will be carried out, after all. From another source we hear that the first premium of 40,000 lire has been awarded to Signor Brentano, and that lesser premiums of 5,000 and 3,000 each were given to competitors from other parts of Italy, as well as from France and Austria.

THE INSTITUTION OF CIVIL ENGINEERS:

SUBJECTS FOR PAPERS, SESSION 1888-89.

The Council of the Institution of Civil Engineers invites original communications on the subjects included in the following List, as well as on any other questions of professional interest. This list is to be taken merely as suggestive, and not in any sense as exhaustive. For approved papers the Council has the power to award premiums, arising out of special funds bequeathed for the purpose, the particulars of which are as under:—

1. The Telford Fund, left "in trust, the interest to be expended in annual premiums, under the direction of the Council." This bequest (with accumulations of dividends) produces 260*l.* annually.

2. The Manby Donation, of the value of about 10*l.* a year, given "to form a fund for an annual premium or premiums for papers read at the meetings."

3. The Miller Fund, bequeathed by the testator "for the purpose of forming a fund for providing premiums or prizes for the Students of the said Institution, upon the principle of the 'Telford Fund.'" This fund (with accumulations of dividends) realises 150*l.* per annum. Out of this fund the Council has established a scholarship, called "The Miller Scholarship of the Institution of Civil Engineers," and is prepared to award one such Scholarship, not exceeding 40*l.* in value, each year, and tenable for three years.

4. The Howard Bequest, directed by the testator to be applied "for the purpose of presenting periodically a prize or medal to the author of a treatise on any of the uses or properties of iron, or to the inventor of some new and valuable process relating thereto, such author or inventor being a Member, Graduate, or Associate of the said Institution." The annual income amounts to nearly 16*l.* It has been arranged to award this prize every five years, commencing from 1877. The next award will therefore be made in 1892.

The Council will not make any award unless a communication of adequate merit is received, but will give more than one premium if there are several deserving memoirs on the same subject. In the adjudication of the premiums, no distinction will be made between essays received from members of the Institution or strangers, whether natives or foreigners, except in the cases of the Miller and the Howard bequests, which are limited by the donors.

List.

1. The Utilisation of Unused Sources of Power in Nature—such as the Tides, the Radiant Heat of the Sun, &c.
2. Standard Specifications for the Materials used in the Construction of Engineering Works.
3. The influence of Sea-Water upon Portland-Cement Mortar and Concrete.
4. The Construction, Ventilation, and Working, of Railway Tunnels of great length.
5. Description of any new or peculiar type of Mountain Railway for very steep gradients.
6. Recent Improvements in Cable Tramways.
7. The Value, with respect to the safety and durability of Metallic Bridges, of (*a*) increase in the weight of the structure, by the choice of other than the lightest design; (*b*) increase in the dead load, by the adoption of a heavy description of flooring, with or without the addition of concrete or ballast.
8. The Painting and Preservation of Metals, Woods, &c.
9. Recent Examples of Hydraulic-Lift Graving-Docks.
10. Forms and Construction of Masonry Dams for Reservoirs.
11. The Cleaning and Deepening of Drainage- and Irrigation-Canals by mechanical means.
12. On the Sale of Water by Measure.
13. Descriptions of Mining-Machinery of improved design.
14. Gold-quartz Reduction and Amalgamation—description of the various machines, and of their method of working.
15. The Physical Properties of Metals under Test.
16. The Working-Strength of Iron and Steel as affected by (*a*) the amplitude; (*b*) the frequency; and (*c*) the time-rate of the stress-variations.
17. The Present Position of the Manufacture of Steel—its defects, and suggestions for its improvement.
18. The effect upon Basic Steel of (*a*) Chromium; (*b*) Aluminium; and (*c*) Tungsten.
19. The Properties of Bronzes and other Alloys.
20. Researches on the actual Working-Limits of Stress in Machinery or Structures under known conditions of variation of loading.
21. The Corrosion of Metal Structures, and the best means of preserving them.
22. The Effect of Wind upon Structures, as influenced by (*a*) their superficial area; (*b*) the form or position of the exposed surfaces; (*c*) the shelter of adjacent bodies; and (*d*) the dynamic action of sudden gusts.
23. On Forging by Hydraulic Pressure, and Casting under the same.
24. The Construction of the Working-Parts of Steam-Engines, in relation to the high pressures and temperatures now becoming general.
25. The practical limit to the Working-Pressure of Steam in Marine Boilers.
26. The various systems of Forced Draught in Boilers, with the economical results obtained.
27. The most recent types of (*a*) Mail-Steamers; (*b*) Cargo-Steamers; and (*c*) War-Ships.
28. On modern experience in Screw Propulsion, comprising the comparative efficiency of propellers of large diameter, and of smaller ones deeply immersed, and of the influence of form.
29. On the Highest Speeds attained and attainable on Railways, having reference to gradients, curves, and the locomotives employed.
30. The Application of the Compound Principle to Locomotive- and to Portable-Engines.
31. Mechanical Traction on Common Roads.
32. The Petroleum Engine and its Applications.
33. The Distribution of Power by Compressed Air or by Vacuum, and the Construction of Machines to be worked by Compressed Air or by Vacuum.
34. Hydraulic Rotative Motors for High Pressures.
35. The means of governing and economising high-pressure fluid in Hydraulic Cranes, Engines, &c.
36. The Construction and Working of Windmills suitable for raising Water for the supply of Villages and isolated houses.
37. The best Combined System of Warming, Ventilating, and Lighting large buildings.
38. The Transmission of Steam underground in the United States, with the results obtained.

39. The Plant used in the execution of important Engineering Works.
40. Tools used in the building of Iron and Steel Ships, and in the Construction of Boilers.
41. The Construction and Working of Friction-Brake Dynamometers.
42. Steam-Cultivation by Digging and by Ploughing.
43. The Generation of Alternating Currents in Dynamo Electric Machines, and their utilisation for Lighting and Power purposes.
44. Electric Meters for recording the Consumption of Electrical Energy.
45. The Construction and Maintenance of Secondary Batteries.
46. Central-Station Electric Lighting.
47. The application of Electricity to the Working of Street Tramways and of Railways.
48. The application of Electricity to the Working of Cranes, Pumps, Tools, &c.
49. The application of Electricity to Smelting and Metallurgical Operations.
50. The application of Electricity to the Purification of Water and of Sewage.
51. The Purification of Copper, and the Reduction of Copper Ores by Electrolytic processes.
52. Contributions to the Bibliography of special branches of Engineering.

Further particulars and conditions may be had on application to the Secretary of the Institution, 25, Great George-street, Westminster, S.W.

PREMIUMS AWARDED, SESSION 1887-88.

The Council of the Institution of Civil Engineers has awarded the following premiums:—

For Papers Read and Discussed at the Ordinary Meetings.

1. A Telford Medal and a Telford Premium to Robert Abbott Hadfield, Assoc. M.Inst.C.E., for his Papers on "Manganese in its Application to Metallurgy," and "Some Newly-discovered Properties of Iron and Manganese."
2. A Watt Medal and a Telford Premium to Peter William Willans,* M.Inst.C.E., for his Paper on "Economy-Trials of a Non-condensing Steam-Engine, Simple, Compound, and Triple."
3. A Telford Medal and a Telford Premium to Edward Hopkinson, M.A., D.Sc., Assoc.M.Inst.C.E., for his Paper on "Electrical Tramways: the Bessbrook and Newry Tramway."
4. A Watt Medal and a Telford Premium to Edward Bayzand Ellington, M.Inst.C.E., for his Communication on "The Distribution of Hydraulic Power in London."
5. A Telford Medal and a Telford Premium to Josiah Pierce, Jun., M.A., Assoc.M.Inst.C.E., for his Paper on "The Economic Use of the Plane-Table in Topographical Surveying."
6. A George Stephenson Medal and a Telford Premium to Sir Bradford Leslie,† K.C.I.E., M.Inst.C.E., for his account of "The Erection of the 'Jubilee' Bridge, carrying the East Indian Railway across the River Hooghly at Hooghly."
7. The Manby Premium to the late Hamilton Goodall, Assoc.M.Inst.C.E., for his Paper on "The Use and Testing of Open-hearth Steel for Boiler-making."

For Papers Printed in the Proceedings without being discussed.

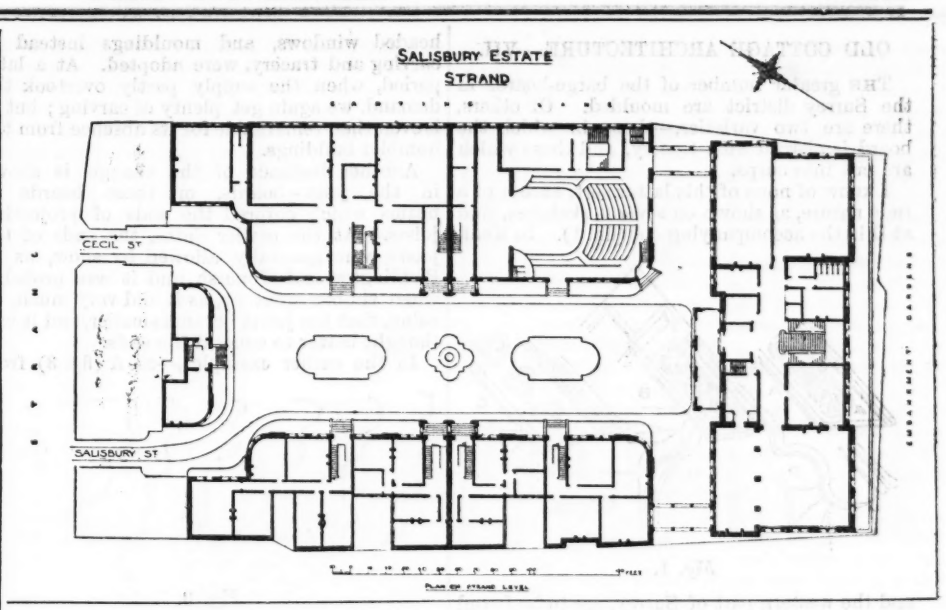
1. A Watt Medal and a Telford Premium to Professor Victor Auguste Ernest Dwelshauvers Dery, for his Paper on "A New Method of Investigation applied to the Action of Steam-Engine Governors."
2. A Telford Premium to William Mann Thompson, M.A., B.E., Assoc.M.Inst.C.E., for his Paper on "Improved Systems of Chaining for Land and Engineering Surveys."
3. A Telford Premium to James William Wyatt,‡ F.C.H., Assoc.M.Inst.C.E., for his Communication on "Sizing Paper with Rosin."
4. A Telford Premium to Dugald Drummond, M.Inst. C.E., for his Paper on "The Heating of Carriages by Exhaust Steam on the Caledonian Railway."

For Papers read at the Supplemental Meetings of Students.

1. A Miller Prize to David Sing Capper,§ M.A. Stud. Inst.C.E., for his Paper on "The Speed-Trials of the latest addition to 'The Admiral' Class of British War-Vessels."
2. A Miller Prize to Lawrence Gibbs, Stud.Inst.C.E., for his Account of "Pumping-Machinery in the Fenland and by the Trentside."
3. A Miller Prize to Harold Medway Martin, Wh.Sc., Stud.Inst.C.E., for his Communication on "Arched Ribs and Voussoir Arches."
4. A Miller Prize to John Henry Parkin, Stud.Inst.C.E., for his Paper on "River-Gauging at the Vyrnwy Reservoir."
5. A Miller Prize to Alfred Chatterton,‖ B.Sc., Stud.Inst. C.E., for his Paper on "The Prevention and Extinction of Fires."
6. A Miller Prize to John Holliday,¶ Stud.Inst.C.E., for his Paper on "Boiler Experiments and Fuel-Economy."
7. A Miller Prize to Arthur Wharton Metcalfe, Stud. Inst.C.E., for his Paper on "The Classification of Continuous Railway-Brakes."
8. A Miller Prize to Robert Jarratt Money, Stud.Inst. C.E., for his Account of "Railway Engineering in British North America."**

A Silver Pastoral Staff is to be presented to the Bishop of Qu'Appelle, Canada. The work has been entrusted to Messrs. Jones & Willis.

* Has previously received a Telford Medal and a Telford Premium.
† Has previously received Telford and Watt Medals and Telford Premiums.
‡ Has previously received a Telford Premium.
§ Has previously received a Miller Prize.
‖ Has previously received a Miller Prize.
¶ Since elected an Associate-Member.
** It has been determined to print the eight Papers, either in whole or in part, in the Minutes of Proceedings.



Illustrations.

DESIGN FOR A DRAWING-ROOM AND ORGAN-CHAMBER.

IN this design great richness of effect has been aimed at, using for the wall-panelling and woodwork generally rosewood inlaid with pear-tree, and where carving occurs it is to be executed in the latter wood. The upper part of the wall-panelling is intended to have pictures, suitable subject heads, somewhat decoratively treated; on the walls above an arabesque design is to be painted in tones of gold, copper, and bronze; curtains and other upholstery to be of amber silk and plush; the base of the fireplace of marble with Mosaic covings.

In the niches at the sides will be placed statuettes of bronze.

Through the arch on the right of the chimney-piece is an apsidal organ-chamber or music-room with domical roof, around the lower part of which is painted a procession of figures, singing and performing on musical instruments.

The mouldings of the ceilings are of rosewood with carved and gilt ornaments, and panels painted in various designs and of tints similar to, but lighter than, the wall treatment.

The design is by Mr. W. F. Randall, and the drawing from which the illustration is taken was hung in the Architectural Room at the last Royal Academy Exhibition.

SALISBURY ESTATE, STRAND.

WE give a view of the buildings proposed to be erected on this estate, from the designs of Messrs. Perry & Reed, architects. The following particulars in regard to it are extracted from an account furnished by the architects:—

The property known as the "Salisbury Estate, Strand," comprises the houses of Cecil and Salisbury-streets, and the low-lying land between the ends of them and the gardens of the Thames Embankment.

This lower portion has for many years,—in fact ever since the formation of the Embankment, which cuts it off from the river,—been in a state of dilapidation.

For some years past, as the leases of this property have been falling in, schemes for dealing with it as a whole have occupied the attention of the Marquis's advisers; but the main difficulty was that the property could only be acquired under a lease, and it was not easy to raise a sufficient capital to cover so large a site on such a tenure, however favourable; but when, under the "Settled Estate Acts," the Marquis was enabled to part with the freehold, one principal obstacle was removed.

There were many rival schemes submitted for the laying out of the estate. These schemes were of two classes, and their principal features were in the first case the formation of a thoroughfare which should connect the roads on the Embankment level with the high level of the Strand, and in the second the preservation intact of the present private character of the property. The Metropolitan Board of Works favoured the former idea, and proposed a street partly on arches passing round the front of the Adelphi, and by gradual curves into the Strand. But the objection to this scheme is twofold. The gradients in any case must have been extremely heavy, as the proposed street would deliver itself at the highest point of the Strand, and, should the street have become much used, the through traffic would be scarcely likely to prove of any benefit to the estate.

The idea of retaining the privacy of the property found most favour. Several schemes were worked out for this, some retaining the site of the present streets, and merely rebuilding the houses; but the one prepared by the authors of the design we publish to-day was the one which formed the basis of negotiations which took place some years ago, when a lease was being applied for, and it has since been adopted by the purchasers of the estate, and provides for dealing with the site as a cleared one.

In dealing with the site, the architects have taken advantage of the almost unique position of the property relative to the different levels, and have adopted the general idea of the "Adelphi" and its substructures as the principal feature of their scheme.

But over the Adelphi the estate has this great advantage, caused by the construction of the Embankment, in that the Adelphi was kept back from the old river-line by the wharfage before it, which had to be preserved; the destruction of the wharves and river-front before the Salisbury Estate enables the buildings on the latter to be advanced to the utmost extent of the property. It is, therefore, proposed to construct, first, a plateau (level with the Strand) over the whole area of the site, having beneath it, and forming the substructures of the buildings to be erected over, a storey about 35 ft. high, entered from the Board of Works road on a level with the Embankment, and absolutely distinct from the Strand level. The plateau over this is proposed to be laid out as a square, entered from the present Cecil and Salisbury-streets, and surrounded by the several buildings to be erected. It is intended this shall be altogether private, and closed by gates at the entrances from the Strand.

As the freeholders are open to negotiations for letting off portions of the estate, nothing has yet been definitely decided as to the details of the several buildings, beyond the general arrangement as described above; but the following may be taken to be their intention, subject to such modifications as circumstances may call for. At the southern end it is proposed to erect a hotel. There would be entrances on both the Embankment and Strand levels, and also on the lower level would be restaurant accommodation specially for the theatres so thickly set hereabouts. Immediately adjoining the hotel it is proposed to erect a theatre, drawings for which are now before the Board of Works. Of this and of the buildings generally we may, at some future time, give more detailed descriptions.

From the above it will be seen that the "Salisbury Estate" is one of the most important building enterprises at present in hand in London. It will remove a long-standing eyesore of dilapidation and ruin from the Embankment gardens, and nearly complete the crescent of palatial buildings now encircling the Victoria Embankment of the Thames.

The purchasers of the freehold are Messrs. J. W. Hobbs & Co., Limited; the architects acting for them in the matter are Messrs. Perry & Reed.

OLD COTTAGE ARCHITECTURE.—VII.

The greater number of the barge-boards in the Surrey district are moulded. Of others, there are two varieties,—those in which the board is pierced with tracery, and those which are cut into cusps.

I know of none of this latter sort, except of a rude nature, as shown on several sketches, and at D in the accompanying cut (fig. 1). In Kent,

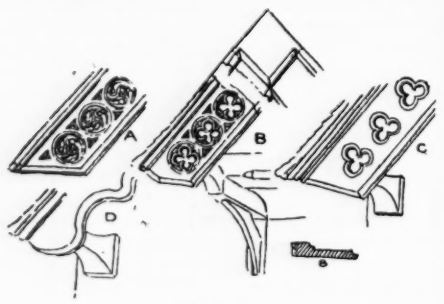


Fig. 1.

and the western part of Surrey, are to be found fine examples of the traceried cusp, but none of the houses in this district seem old enough.

Of the examples of tracery given, A (fig. 1) is from Paddington Manor, and B from Shamley-green and Plunks Farm, at which latter it is carefully plastered up, and only shows in one small place. C and D are from Shiere village. The manner in which the junction of boards at top is covered in B is worth notice as very practical; A is similarly finished.

The houses having these barge-boards are certainly of earlier date than the majority of those illustrated.

As Shiere and a large district became the property of Sir Reginald Bray, the Minister of Henry VII., who was a famous builder, and as the family settled here, it is probable that a good many of these houses were erected by him or his immediate successor.

The barge-boards illustrated in fig. 2 are from a house in the High-street, Godalming,

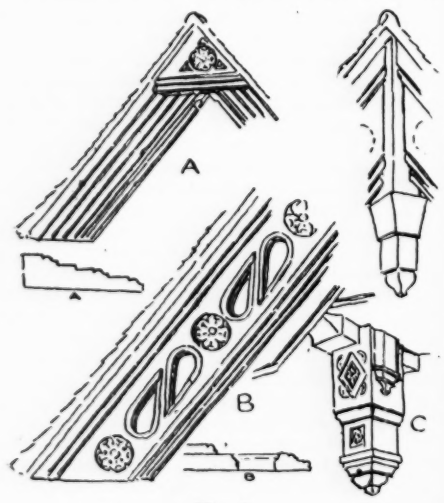


Fig. 2.

and are of a later date, as may be seen from the mouldings. A is that of the dormer, and in this case the joint at top is covered by a piece of the board fixed cross-ways. In the board of a corresponding gable the Tudor roses of B are replaced by a plain chamfered circle. The barge-board on the front at Nursecombe, now replaced by a clumsy imitation, was of similar pattern to this; and so is the pendant on the opposite side. Old pendants to the wall-plate of this front board at Nursecombe, however, remain as shown at C,—an unusual detail.

If we consider the immense amount of building that suddenly went on in the sixteenth century, and the consequent demand there must have been for skilled workmen, it is not difficult to understand why traceried barge-boards went out of fashion, and moulded came in. The one required powers of design and skill of hand, and plenty of time to execute; the other could be carried out in half the time by almost any workman provided with the necessary tools. It would have been physically impossible to erect in the time in the Gothic or earlier Tudor style the number of buildings that were afterwards carried out; and this is, I take it, one reason why the change of style was so rapidly adopted. Building was very much expedited when square-headed windows, and mouldings instead of carving and tracery, were adopted. At a later period, when the supply partly overtook the demand, we again get plenty of carving; but it is even then remarkable for its absence from the humbler buildings.

Another instance of the change is shown in the joist-boards, or those boards or beams which covered the ends of projecting joists. At the earlier dates, the ends of the joists were generally allowed to show, as at Paddington and Wonersh, and it was probably when timber went up, as it did very much, in value, that the joists became smaller, and it was thought better to conceal the ends.

In the earlier examples,—as A (fig. 3) from

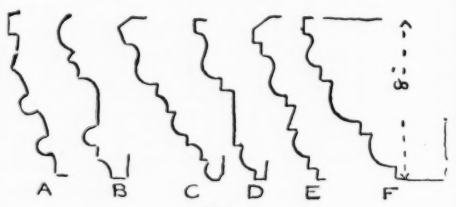


Fig. 3.

Plunks and B from Shiere,—these joists-boards are moulded on no rule, but apparently according to special design; since, although mouldings something similar in design may be found of this date, the variation is infinite. With the introduction of the Renaissance mouldings, either special planes were largely circulated, or at any rate the designs, since, although the collection of members varies, the patterns remain very much the same. C is from Nursecombe, D from the inn at Wonersh, E from Tangley, and F from Hawlands, illustrated in this number.

The subjects illustrated this week are chiefly from Haslemere. In the town are a great many excellent chimney-stacks, generally very high. One of the most frequent plans was not among those given in my last number, and I therefore now give two varieties of it (see fig. 4).

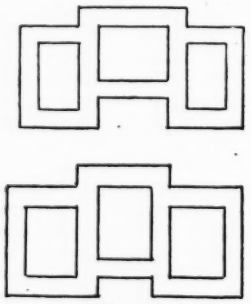


Fig. 4.

Judging from the appearance, I imagine the bricks of these chimneys are not more than 2 in. thick. I gave the size of some in my last chapter, but there are many in the neighbourhood of smaller thickness than I then named. Some at Godalming are only 2 in., and six courses measure 15 in. In the fine chimneys at Abbot's Hospital, Guildford, thirty-six courses measure 8 ft., which gives $2\frac{2}{3}$ in. to a course.

While, as in the earlier work, brickwork was chiefly confined to the chimneys, the trouble of calculating the courses did not make itself much felt, and it was probably only when the whole houses were built of brick that the sizes were increased.

In Haslemere are a very great variety of patterns of weather-tiles. As a rule throughout this district only the pattern B (fig. 5) is much employed.

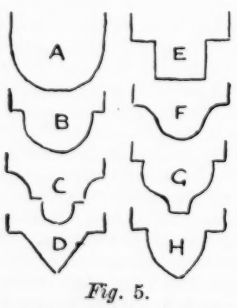


Fig. 5.

About Wonersh and Shiere, and elsewhere, are examples of A, and I have fancied that they had the appearance of being earlier in date than others. Patterns E, F, G, and H all come from Haslemere. C and D are, I think, only of modern date.

I have already said that most of the weather-tiling is of comparatively recent date, but it is possible that some of this Haslemere work may be earlier. It is, of course, well-known that there were "wall-tiles" even in the sixteenth-century.

Of the sketches shown, that at Shotter Mill shows an arrangement similar, on a smaller scale, to that at Rake House, shown in my first chapter. The head of the small gable is, as there, filled in with herring-bone brickwork; in this case there is basket-pattern at the top. On the house at East-street is a dainty cornice of $2\frac{1}{2}$ in. bricks that certainly postulates weather-tiling above, and that may be as old as 1700.

Lythe-hill Farm has undergone thorough restoration, and it is impossible to tell how much is old or of old pattern. I therefore give it under reserve. I am assured by the occupant that it is all old, and it may very well be so. There is, however, one filling-in of a lower panel with diagonal timbers that is quite unlike the rest of the ground-floor, or anything in the South of England, and this must, I think, be an introduction. There is a panelled room here, with a later Georgian mantelpiece of excellent carving.

It is evident that the projecting part is a wing that has been added to an older house, of the usual pattern with recessed centre. I have had to omit several trees that prevent one's getting a complete view, and make sketching difficult.

Hawlands is a very interesting old house in an out-of-the-way place. The double projection of the upper storey is a sign of early date. This projection is carried at the corners by projecting large beams crossing the rooms diagonally, the joists being framed into them. This is constructional, but the effect inside is extremely unpleasant.

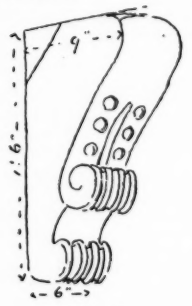


Fig. 6.

A correspondent, in a number of some weeks ago, asked for a plan of something between the small cottages and Rake House. The difficulty is always to find a place that is unaltered; this plan seems to be in its original state, with the stairs in their normal position, and I will give a cut of it in a future number.

The house at Milford is of a very straightforward type, with the large roof over the hall in the centre, and the parlours in one gabled wing and the offices in the other, with smaller gable. The hall in these cases is, however, now built with a storey over it, instead of, as formerly, open to the roof. This house is covered,—not with nice, comfortable rough-cast,—but smooth cement, that does not do it justice, and is almost obscured from view by two very large yews, which probably began life as humble peacocks, but have been allowed to grow to such an extent as to overshadow the house completely. It is always a hard struggle to sacrifice a fine tree, but at least one of these might be spared with advantage to the look, and certainly to the healthfulness, of the house.

THE "ABBEY HOUSE," SHERBORNE.

The "Abbey House" is the residence of Mr. Charles S. Whitehead, one of the assistant-masters of the King's School, and he receives in it a certain number of the boys as boarders; for their accommodation his predecessor erected a dormitory-block, of but little architectural character, in connexion with the house, which has no architectural pretensions whatever.

The title of the "Abbey House" is derived from the ground on which it stands having been within the precincts of the monastery, and there adjoins it on the north a portion of the great Abbey Barn, consisting of its transepts only, converted with new fronts into a dwelling-house in the sixteenth century. Towards the south, with some low premises and gardens intervening, are the quadrangles of the King's School; the outer one is formed by the school-house dormitories, the studies (the ancient

Abbot's House), the chapel (the ancient Abbot's Hall), and the new great school-room and class-rooms, all connected by a groined cloister. In the inner quadrangle are the head-master's house, the old school-room, and the school library (the ancient Guesten Hall), while the great Abbey Church fills up the whole of the southern side.

It was felt, therefore, by the Governors that the "Abbey House" should be so added to and altered as to harmonise with the school buildings near it, and the work was put into the hands of the architects of the school by Mr. Whitehead.

The additions (shown by the lighter tint on the plan) include studies for the boys, with day-room lavatories, bath-room, boot-room, &c., and a new entrance and staircase to the dormitories, which have been altered, and new windows and dormers inserted harmonising with the other work. Extensive offices have also been added in connexion with the house.

Local stone is used for the walling, with dressings of Ham-hill stone, and Broseley tiles for the roofs. The contractor is Mr. Betton, of Sherborne, under Mr. F. Smith as the clerk of works, who has also superintended other works at the School, and the restoration of the Abbey Church tower for the architects, Mr. R. Herbert Carpenter and Mr. Ingelow.

PROPOSED NEW FRONT: FREE PUBLIC LIBRARY, CHESTER.

On the 1st inst. the Mayor of Chester (Mr. William Brown) presented the citizens with a new reading-room, which was erected behind the existing building; this room is 51 ft. long and 30 ft. wide, and a one-story building amply lighted from the roof.

It was intended to build a new front to the old building, and our illustration (reproduced from a drawing in this year's exhibition of the Royal Academy) shows what was proposed to be carried out in the half-timber style so identified with Chester. It is possible that the front may yet be built as shown in our view, but the expensive alterations behind, involving considerable outlay, have caused this front alteration to be left at present in abeyance.

The work hitherto carried out has been done by Mr. Thomas Hughes, builder, of Aldford and Chester, from the designs and under the superintendence of Mr. Thomas M. Lockwood, F.R.I.B.A., of Chester.

OBITUARY.

Lord Mount-Temple.—We record with much regret the death of Lord Mount-Temple, which occurred on Tuesday morning, at his residence, Broadlands, near Romsey, Hants. He had been in ill-health for some time. The Right Hon. William Francis Cowper-Temple, Baron Mount-Temple, county Sligo, in the peerage of the United Kingdom, was the second son of the fifth Earl Cowper. His lordship was born on December 13, 1811. After serving for some years in the Army, he entered upon a political career, and became secretary to Lord Melbourne, when that nobleman was Prime Minister. After holding some other posts, he was in 1855 appointed President of the Board of Health. In February, 1860, he was appointed First Commissioner of Public Works, which office he retained until the resignation of Earl Russell's Government in 1866. The most important measure introduced by Mr. Cowper as First Commissioner was the Thames Embankment Bill, brought forward in the session of 1862. After much opposition, the measure became law. During Mr. Cowper-Temple's tenure of the First Commissionership the parks were also greatly improved. Altogether, he may perhaps be said to have been the most successful First Commissioner of Works who has held the office.

Mr. John Fowler.—The death is announced of Mr. John Fowler, M.Inst.C.E., the chief engineer of the Tees Conservancy Commission, which took place on the 11th inst., at his residence, Copsewood House, Preston-on-Tees. According to the *Darlington and Stockton Times*, Mr. Fowler, who had attained his 64th year, was a native of Aberdeen. He came to Teesside in 1847, when he became assistant to his relative, Mr. Jas. Johnston, who was at that time Engineer to the Tees Navigation Company. He retained his position for seven years, until the death of Mr. Johnston, and in 1854 he was appointed Engineer to the Tees Conservancy Commission, which was formed two years previously. This post he has continued to fill up till the time of his death, though latterly the burden of the work in connection with his office has fallen upon Mr. Fred Jobling, his assistant. During the past thirty-four years all the great improvements which have been made in the Tees estuary, transforming it from a shallow stream into a navigable river, have been either conceived by Mr. Fowler or carried out under his supervision. For some time past he has also been Consulting Engineer to the Ouse Navigation Company, and has carried out certain works in connection with the Aire and Calder Navigation Company. He also superintended some improvements in the Ribble at Preston.

ALTERATIONS AT THE BANK OF ENGLAND.

Sir,—I was in the Rotunda of the Bank of England yesterday, and I saw to my sorrow that a wide gallery is far advanced in construction around it under the dome, and apparently utilising the upper portion of the niches. What is the use of having a good work in a city if it is to be damaged in this manner? Shades of Sir Robert Taylor and of Sir John Soane forgive the authorities!

Wyatt Papworth.

October 13, 1888.

THE "GENERAL ADVICE" ON RESTORATION.

Sir,—Surely nothing can tend more to undermine the influence of the "General Advice" on restorations *said to be* issued by the Institute than a public discussion as to the individuals who are or who are not responsible for it. Your original remark, Mr. Editor, that it is not issued by the Institute, is perfectly true. The members of that body have never been asked to consider or approve it. It is strange how slow those who manage our affairs are to learn wherein the value of a representative professional society consists.

Lacy W. Ridge.

COPENHAGEN TOWN-HALL COMPETITION.

Sir,—In your journal of September 8 [p. 178] it has been announced that the Corporation of Copenhagen invited designs for a new Town-hall in Copenhagen, and several English architects have in consequence applied to our magistrate for particulars. Will you kindly allow me through these lines to inform those gentlemen and your readers in general that only Danish architects have been invited to compete?

J. Fenger,
Architect of the Town.

Copenhagen, Oct. 14, 1884.

A RESIDENTIAL COLLEGE FOR ARCHITECTURAL STUDENTS.

Sir,—In Professor Roger Smith's interesting lecture at the opening meeting of Session 1888-9 at University College, London, occur the following words:—"I believe there comes to most young men a time when the novelty of their change of occupation and position has worn off, and the irksomeness of routine is being felt, with possibly the depression due to being in lonely lodgings, instead of a bright home or the sixth-form of a busy school, and the wish to give up rises." These words, Sir, I read and read again, and they took me back to a time, not so very long ago, when I was in lonely lodgings, fresh from the country, without many friends in town, and anxious not to make myself a nuisance to those I had. I was lonely in every sense of the word,—depressed, miserable. I began to hate my books and drawing-board, and used to seek a solace for my loneliness out-of-doors. The Oratory, for instance, used to exercise a great fascination for me. The music was delightful, and it cost nothing,—a great recommendation in my eyes, for those were times when my pocket was light and my heart was heavy. Perhaps, though, it was fortunate for me that I had no money. Its want is a powerful restraint when one's evenings were as utterly *wretched* (yes, that is the word) as mine were.

Times have since changed with me. My pocket is no longer light and my heart no longer heavy; but, Sir, my sympathies go out towards those who are in the same position as I was, and Professor Smith's words have led me to make public the idea which has lately been exercising my brain. The question that occurred to me was, "Why should these things be?" Is there any reason why our architectural students should not combine together and form a sort of residential College, as the medicals have done? Indeed, the great success of these medical Colleges makes me sanguine that an architectural one, judiciously conducted on popular lines, could not but be a success. In a recent number of the *Hospital*, the Dean of Middlesex Hospital Medical School wrote, "Our residential College is a great success, and supplies a much-felt want;" and a striking confirmation of this statement lies in the fact that Guy's is now making arrangements for the erection of a residential College.

I do not propose to go into anything vast at present. We must first gauge our depth and go on step by step cautiously, never making a move till we are quite sure that it is the right one. My idea is to take a house within convenient reach of Conduit-street, Bloomsbury, and the City, for about a dozen men, and to let each have his separate room, with some contrivance similar to that at the Meistersingers' Club, so that the bedroom might be turned into a jolly little sitting-room during the day. Each man would furnish his own room and decorate it to his own taste, as in the Universities. For general rooms there would be a common room, with chess, draughts, the building papers, &c., for conversation, smoking, &c.; a dining-hall, containing a house library of the principal architectural text-books, of which I already have a nucleus; and a drawing-room, for singing, &c. As regards management, I should propose to engage a housekeeper, well known as a good organiser, with one or two under-servants. For meals, each collegian could have his breakfast at his own time, but dinner in hall would be provided for those who desired it, at a fixed tariff, every evening and on Sundays. If the house had grounds attached, and we could get a tennis-court or two marked out, it would be good for summer evenings. With regard to the important question of discipline, I should imagine that the disapproval of his fellows would prevent most men from behaving in a manner injurious to the welfare of the College, but I should propose that power to deal with minor offences be given to the senior students for the time being, all important questions being referred to a body of trustees, who would have the power to summarily remove any offender from the college. As to entrance, I would say that candidates would in all cases have to be quite junior students, and would be entitled to remain in the house until they had passed the A.R.I.B.A. examination, when they would have to leave. Of course, the examination would have to be passed within a certain time, as at Oxford. Now for fees: these would naturally depend a great deal upon circumstances; but if the College were economically conducted, I think expenses could be paid for, say, 10s. a week for rooms and attendance, and 1s. a week subscription to form the library, &c., for each student; provisions, &c., being obtained from the Stores, and supplied to the student at cost-price. These fees would have to be paid in advance. There would be no profit, as the whole affair would be in its essence self-supporting; the only item partaking of this nature would be a small sum paid week by week into a reserve fund to prepare for eventualities.

This then, Sir, is a brief outline of the scheme that I have elaborated, and which I quite believe to be practicable. The main question to my mind is whether the time is yet ripe for the development of such a proposal, and I therefore ask all those who would be glad to join in some such College as I have indicated to be kind enough to let me have a letter, addressed to 9, Conduit-street, W., giving me some assurance to that effect; and, Sir, if my proposal does meet with my fellow-students' approval, I will promise them my earnest and active co-operation to make the College a success. Perhaps, some day, some munificent patron of architecture may present us with a magnificent sum for building a permanent College, such as our fellows of the Royal College of Music have recently received. At all events, there will be the opportunity.

Αρχιτέκτων.

London, October 10, 1888.

GREAT INDIAN PENINSULAR RAILWAY, VICTORIA TERMINAL BUILDINGS, BOMBAY.

Sir,—In your description last week [p. 268] of the above buildings, you omitted to mention the name of Mr. J. Griffiths, the Principal of the Bombay School of Art, under whose supervision and direction the models of the decorative carved detail were designed. Will you, therefore, please insert this letter, as it is due to Mr. Griffiths principally that this portion of the work has been so satisfactorily carried out? Frederick Wm. Stevens.

Bath, Oct. 15.

*** We print Mr. Stevens's letter; but we may observe that Mr. Griffiths's name and the part he took in the work were duly mentioned in the long account published in a former number of the *Builder*, and to which we referred the reader; and we thought it unnecessary to publish the same information twice.

ECCLESIASTICAL ART EXHIBITION IN MANCHESTER.

Sir,—Will you allow us to state that the vine altar frontal mentioned with approval in your issue of Oct. 6 is entirely original, and was designed for this society by Mary Gemmell?

It is now in the Arts and Crafts Exhibition at the New Gallery.

The Secretary to the Decorative Needlework Society,

17, *Sloane-street, S. W.*, Oct. 15.

PROVINCIAL NEWS.

Brighton.—The Hove Commissioners, at their meeting on Saturday last, passed a resolution in favour of carrying out, at the public cost, a new sea wall and esplanade at West Hove, in extension of what is locally known as the Medina "quarter-deck." In connexion with this it is proposed to erect an extensive and commodious bathing establishment and club-rooms, from designs by Mr. Paul B. Chambers, the engineering details having been furnished by Messrs. Thos. Bradford & Co. We understand that it is largely due to the action of Mr. A. Hill, of the firm of Tooth & Co., that this improvement has been secured for Hove.

Exeter.—At a meeting of the Exeter Town Council on the 10th inst. (reported in the *Western Times* of the 11th inst.) the City Asylum Committee reported that the architect of the building (Mr. R. Stark Wilkinson) reported to them on the 12th of September that he was at the reservoir on the Monday preceding and watched the north tank filled, and for three hours after, without detecting the fraction of an inch fall in the water; that the south tank was half full and still filling when he left, without any sign of leakage, and that he therefore believed the asphalte skirtings and angles, and the cement rendering of sides, to be made good, and hoped that after a fortnight's use of the reservoir the committee would be satisfied. At the same meeting a report from the engineer was presented that the water in the southern tank had sunk 5 in., and in the northern tank ⅜ in. in thirty-six hours. A report was read from the building sub-committee, who met at the asylum on August 24th. They reported that they visited the reservoir and saw five men were engaged cutting out small pieces of the asphalte bottom. This circumstance gave the committee an opportunity of examining the concrete beneath the asphalte and of taking a small sample, which sample they did not think was good. They also found that between the concrete bottom and the wall of the tank there was a small space of about ¼ in. to ⅜ in. The committee were not able to say what the result of the work now being done might be, but could not refrain from remarking that this patching of a new work ought not to be required. The Committee had reason to think that the bottom of the tank was not of Claridge's asphalte, as required by the specification. They also reported that water from the roof found its way to the inside of the tanks, and ran down over the walls in many places, and on examining the roof they found the cement covering cracked in many places, and not more than a quarter of an inch thick in a part which was broken up, of which they took a sample, whereas the specification provided that the cement rendering on the top should be three-quarters of an inch in thickness. The Clerk was directed to call the attention of the architect to the substitution of another kind of asphalte for that specified, and to ask him why such a substitution was made without the knowledge or consent of the Committee. The architect was also requested to report upon the thickness of the cement on the roof of the reservoir. A letter had been received from the architect in reply, in which he said that Mr. Phillips, the contractor, employed Messrs. Bradshaw to lay the asphalte. On learning this, he informed Mr. Phillips that Claridge's was mentioned in the specification. He thereupon guranteed this to be equal to Claridge's; and, as he (the architect) knew that Bradshaw's was very generally used in Exeter, both by the Council and privately, and remembering the disposition of the Council to employ local people as far as possible, he thought there would be no objection to allowing the asphalte to remain. But he informed Mr. Phillips that the work of making good any faults or defects would entirely rest with him as being the best way of proving his guarantee of the asphalte to be correct. There was no concrete specified on the roof of the reservoir, but a rendering of Portland cement ¾ in. thick. This he found to be about half an inch to five-eighths thick, and at his (the architect's) last visit Mr. Phillips was adding more rendering, so as to bring it up to the thickness as specified. With regard to the asphalte the architect had been requested to report to the Committee whether the leakage in the reservoir was in any way attributable to defects in the asphalte, and the whole matter would be furthered considered when the architect's report had been received. The Committee also directed the architect to be informed that the sample of cement taken by the Building Sub-Committee from the roof of the reservoir was but ¼ in. thick, and that the Committee were of opinion that cement laid on in coats was not equal to cement laid down in conformity with the terms of the specification. Mr. Huxtable moved the adoption of the report, and had commenced some criticisms on the asylum building, when the Mayor said his attention had been called to the fact that there was not a quorum present, and the Council then adjourned.

St. Albans.—The new hospital and dispensary at St. Albans, erected in honour of the Queen's Jubilee, were opened on the 10th inst. The building is of red brick, and has been erected from the designs of Mr. Alexander Graham, F.S.A., of London, by Mr. Alderman Miskin, under the supervision of Mr. Ford, the City Surveyor. The following general description of the building appears in the *Herts Advertiser*:—"The new Hospital and Dispensary in the Verulam-road stands on an excellent site of rather more than an acre in extent. The building, which provides ward accommodation at present for twelve patients, has been designed with a view to future enlargement to meet the growing requirements of the city and the neighbourhood, and the additions could be made at any time at a comparatively small cost. The main entrance is on the north side, approached from Church-crescent, and the wards, which face the south and are on the ground storey, consist at present of a male ward for six beds, an accident ward for two beds, and a female ward for four beds. The height of the wards is 12 ft., and the cubic space allotted to each bed is rather more than 1,300 ft. Separate lavatories, slop-sinks, and water-closets are provided for males and females, all these being conveniently placed, and separated from the wards by a well-lighted corridor which runs straight through the building from end to end. Provision is also made for a nurse's room between the wards, a large bath-room, and an operating-room with a north light. A kitchen with separate external entrance, a scullery, and a serving lobby, are placed as nearly as possible in the centre of the building, and a larder and store-room, convenient of access, are provided in a small basement storey. A staircase off the main entrance hall leads to a set of rooms on an upper storey, consisting of a sitting and bedroom for the matron, a servant's room, linenry, and a good-sized room for convalescents. In connexion with the hospital proper is a dispensary for out-patients. This has a separate external entrance, but provision has been made for internal access from the hospital corridor. The arrangements comprise an entrance lobby, a spacious waiting-room, two consulting-rooms (one of which is available as a surgery in connexion with the hospital), and a dispensary. The post-mortem room has been placed in an angle of the site as a detached building. The entire block stands on a bed of concrete, and the walls, which are constructed with local bricks of the best quality, are built with a hollow space. The roofs are covered with Ruabon tiles. The ward and corridor floors are of pitch pine, and the internal joinery is of the same material varnished. The wards are warmed by ventilating grates, and the corridors and other parts are heated by radiating pipe-coils, a small boiler for this purpose being fixed in the basement. Inlet shafts for ventilation are provided in the angles of the wards and throughout the building, and extraction shafts are carried from the centres of the ceiling communicating with separate air-flues in the chimney-stacks. The fittings throughout are of the best make and of the simplest character, and the drains, waste and soil pipes are all ventilated, the drains being laid in straight lines with inspection chambers at the junctions." The grates, hot-water pipes, and other fixed ironmongery came from the works of Mr. D. O. Boyd, Maddox-street, London. The total cost of the building will be about £3,800.

Swansea.—The *Western Mail* states that Mr. Bell, Borough Surveyor of Swansea, has made a report to the Works Committee in reference to the cost of lighting certain streets in the borough with electricity as compared with oil and gas respectively. The streets referred to are Mount-street, Castle-square, Castle-street, High-street, Alexandra-road, Grove-place, Craddock-street, Union-street, Oxford-street, and Temple-street. At the close of his report Mr. Bell says:—"It will be seen that the electric light would give nearly nine times the candle-power of gas, and the annual cost would be about the same." The *Mail* understands that the members of the committee are practically unanimous in favour of the electric light.

York.—A meeting of the Municipal Offices Committee of the City Council of York was held last week, at the Guildhall, when the Lord Mayor presided, and there was a large attendance. The committee were engaged for some time considering the proposed alterations of the Guildhall, the suggested erection of municipal buildings in Blake-street, and the erection of police-buildings in Clifford-street. After deliberation, the committee unanimously resolved to recommend the Council to construct a Council Chamber, with a gallery capable of accommodating about 100 persons, and to proceed with such alterations of the premises adjoining the Guildhall as shall be necessary to provide accommodation for the Town Clerk, the Surveyor, and City Accountant, the Guildhall itself to be repaired and decorated in keeping with its ancient architecture. It is proposed here to provide accommodation for the transaction of all city business, and to remove the police business to Clifford-street. This is in accordance with the recommendation of the Watch Committee, and it is suggested that the buildings in Clifford-street should consist of police and fire brigade stations.

CHURCH-BUILDING NEWS.

Balham Hill.—The Bishop of Rochester recently conducted the festival of harvest thanksgiving in the parish church of the Ascension, Balham Hill, and dedicated the new reredos and other decorations at the east end of this parish church, all the new work being the gift of Mrs. Pugh, of Clapham Common, in memory of her husband, the late Thomas Pugh. The new reredos, which stands under the central of the three arches supporting the main east wall of the church, is all of alabaster. It consists of a central carved panel of the Crucifixion, about 6 ft. by 4 ft. wide, deeply recessed behind a richly-moulded and cusped arch. This arch supports a carved gable with ornamental crockets and cross at apex, and forms a canopy, the tympanum of which is enriched by mosaic panels. The retable at the foot of the reredos, the front of which is decorated with seven panels of mosaic, representing the emblems of the four Evangelists alternated with panels of ornament, is also of alabaster, specially selected of the darkest and most transparent colours. The centre sculptured group, representing the Crucifixion, contains, besides the usual figure of Christ with the two thieves on either side, at the foot of the Cross St. Mary Magdalene with the Blessed Virgin and Mary of Cleopas on the left, and Mary the mother of James, and St. John on the right hand. At the extreme right is the Centurion, and the background Roman soldiers and a city in low-relief. The whole of the outer east wall beyond the ambulatory

is decorated in fresco tile painting. Seen through the two side arches supporting the main east wall are pictures representing "The Nativity" on the one side, and "The Meeting of Christ and St. Mary Magdalene in the Garden after the Resurrection" on the other. The work has been carried out by Messrs. W. B. Simpson & Sons, of 100, St. Martin's-lane, London, under the direction of Mr. Arthur Cawston, the architect of the building, and the carving has been executed by Mr. Earp, of Kennington.

Gazeley.—The parish church of Gazeley was reopened on the 4th inst., after the restoration of the roof of the nave, which was much out of repair. A local paper says that the roof was subjected to a so-called "restoration" in the early part of this century, when the lead was stripped off, deal principals substituted for oak, the walls raised, and the pitch of the roof lowered, which entirely destroyed the character of the fabric. The roof has now been raised to its former height; an oak cornice, with the original mouldings, of which traces were happily discovered, has been provided, the beams have been spliced where necessary, and the traceried spandrels have been carefully restored where possible, or replaced by new ones of the old design; oak has been substituted for deal throughout. The Rev. William Cooke, Hon. Canon of Chester, who was Vicar of Gazeley from 1856 to 1866, has borne the whole expense of the work, in the hope that the further restoration, which is stated to be urgently needed, will be carried on by the landlords and parishioners of Gazeley. It is but a few years since that Canon Cooke rebuilt the upper portion of the tower, which was in imminent danger of falling, at great cost, and in many other ways he has been a liberal contributor to the welfare of the parish. The architect was Mr. J. Drayton Wyatt; and the contractors were Messrs. Rattee & Kett.

Grimsby.—The new Church of St. Paul, West Marsh, was opened on the 16th inst. The building is of local red brick inside and out. Park Nook stone is used for external dressings, and Ancaster stone inside. The complete plan is a simple parallelogram, 94 ft. by 50 ft., under one roof, with western baptistry and porches, and of this five eastern bays out of seven are completed, with temporary west gable wall, the buttresses being inside the church, joined together by arches at eaves. The walls are 25 ft. high from floor, and gables 55 ft. to ridge. In each of the side bays are simple double lancets, the chancel gable being filled with five unequal lancets. The roof is coved and pannelled in pitch-pine, left clean. All the inside fittings are at present only temporary. The works have been carried out from the designs of Mr. Withers, of Adam-street, Adelphi, by Messrs. Jackson & Son, of Hull, Mr. Gravell being clerk of the works. Consequent upon the expensive foundations, the cost thus far has been about 2,500*l.*

Kirkby Mallory.—The ancient parish church of All Saints, Kirkby Mallory, near Hinckley, Leicestershire, has been reopened, after extensive repairs and additions. The date of the first church on this site is uncertain, but the existing building was erected in the thirteenth century, and now consists of nave, tower, and chancel. The plaster ceilings, put in probably at the end of the seventeenth century, having become decayed and dangerous, had to be taken down, when the old roof principals and timbers were exposed. These, we are informed, have been carefully restored and made good as originally built. In building the new organ-chamber and vestry, the arches and piers of an old chancel-aisle were discovered built up in the wall. These have been opened, and form the communication between the organ-chamber and chancel. It was also found that the walls of the nave contained on either side the arches and piers of an arcade, showing that originally the church comprised nave, aisles, chancel, chancel-aisles, and tower, &c. The gallery at the west end has been removed, and the tower-arch opened into the church. There are several interesting ancient monuments to members of the families of Byron, Noel, and others. The work of restoration will be continued as funds permit. The works have been carried out by Messrs. T. & H. Herbert, of Leicester, from the designs and under the superintendence of Messrs. Osborn & Reading, architects, Birmingham.

London.—The interior of St. Giles's Church, Cripplegate, in which Milton and other celebrities are buried, has been undergoing considerable alterations during the last three months, having been closed for the purpose for that period. The alterations having been completed, it was re-opened on Thursday. The works which have been carried out include the raising of the chancel several feet, which has also been brought further westward towards the second column, and enclosed by a dwarf iron screen. The choir stalls have likewise been brought more into the body of the church, the pulpit being moved in the same direction. The floors have also been relaid. The alterations have been carried out under the superintendence of Mr. Leonard Cubitt, architect, who is also one of the churchwardens. Messrs. Dove Bros. are the contractors.

Saunderton.—The Church of St. Mary Saunderton, near Princes Risborough, founded early in the thirteenth century, was re-opened on the 5th inst., after restoration. The work was commenced early in this year, and consists of an almost entire rebuilding. New open-timbered roofs of pitch pine, covered partly with the old tiles, have been put on the nave and chancel, a new vestry is built on the north side, and an oak-timbered porch on south side. There is an interesting oak timber belfry, containing three bells, at the west end, the posts and framing of which are carried down to the floor inside. This has been thoroughly repaired and re-cased outside with oak, filled in with plaster panels, and a new spire roof, covered with oak shingles, is added, in place of the former lead flat top. A new east window of three lights has been inserted, and filled with stained glass by Ward & Hughes. The ancient ornamental floor tiles have been preserved, and re-laid in chancel and vestry. The front is a curious example of a Norman base and bowl, pieced out at top with a carved rim, about 6 in. deep, of Early English date. We are informed that great care has been taken to re-use all the old stonework of doorways, windows, &c., and to preserve all old features of interest. The architect under whose personal superintendence the work has been carried out is Mr. J. S. Alder, of London, and the builder is Mr. John Wheeler, of Wantage.

STAINED GLASS.

Barton-le-Cley (Beds.).—The parish church here has just received a three-light east window, representing the "Crucifixion." The work has been designed and executed by Messrs. Mayer & Co.

Burley.—A large four-light stained glass window, with elaborate tracery, has just been erected in the north transept of the parish church of Burley, near Leeds. The window has been placed by Mr. J. H. Denton in memory of his wife, and illustrates the hymn "Angels ever Bright and Fair," and the text "Peace on Earth and Goodwill towards Men." The artists are Messrs. Mayer & Co., who also, a short time ago, filled the window in the north-west aisle.

Enfield.—A large stained glass window, the gift of Mr. Edward Hunter, has recently been placed in Enfield parish church. The subject is "The Redemption of Israel out of Egypt." The series of events commences with Moses and the Israelites coming up safe from the Red Sea, and concludes with the entrance into the Promised Land under Joshua. The work is from the studio of Messrs. Powell Bros., of Leeds.

South Acton.—Stained glass has just been inserted into twelve of the clearstory windows in South Acton Church, from the designs of Messrs. Powell Bros., of Leeds.

The Student's Column.

ARTIFICIAL STONE.—XVI.

Stones formed from Residuals, By-products, &c. (*continued*).

FOR Wilkes & Millar's patent paving stone, which is stated to be hard, durable, and non-slippery, a mixture is employed of finely-powdered and washed blast-furnace slag, 3 parts to 1 part of hydraulic cement, to which is added sufficient water, containing in every gallon 1 part of bittern water, 5 per cent. of carbonate of soda, 2½ per cent. of carbonate of ammonia, and a little potash. If an ounce of sulphate of lime is added to this solution the stone will set more quickly.

Messrs. Kirk Bros., at the Moss Bay Ironworks, Workington, worked with some degree of success the process of Mr. Henry Hobson for utilising hæmatite Bessemer slag. The cold slag is pulverised, and then mixed thoroughly in suitable mills with 25 per cent. of common river sand, and sufficiently moistened; the mixture sets without addition of lime, the powdered slag forming the cement.

In one of Mr. Ransome's processes two important waste products are utilised, viz., the slag from ironworks and the foul or spent lime from gasworks. The sulphur of the lime is first to be got rid of by mixing a certain proportion of coke with the slag and lime, and calcining: in this way the sulphate of lime can be reduced to sulphides, and on a jet of steam being passed into the furnace the sulphides are decomposed, much sulphur passing off in combination as sulphuretted hydrogen.

In McKinley's patent, foul lime is used with bitumen, or asphalte and clay.

The Rev. G. H. Forbes brought out in 1873 several patents which had also for their object the utilisation of foul gas lime. In one he mixes tar with the foul lime, burns, and reduces to a fine powder; the product is said to form a good cement, suitable for the fabrication of stone, &c. In other patents, chalk or limestone is added to the mixture of tar and foul lime before burning.

Mr. Thos. Prideaux, of Sheffield, successfully prepared concrete from this by-product. His procedure was to grind the foul lime until it assumed a uniform green colour, and in this state it could be used as plaster, cement, or for stone-making: if required of quicker setting and denser character, it was calcined, re-ground, and mixed with silicious matter. It is rather remarkable that, according to the testimony of several practical men who examined houses plastered with the ground foul lime, after it had set there was no offensive odour. The setting quality of the stuff is evidently due to the oxidation of the sulphur compound resulting in the production of sulphate of lime.

The *débris* of slate quarries is very abundant, it being stated that in the production of one ton of marketable slate there is something like ten tons of waste. Kain, in 1861, proposed to add to waste powdered slate, fine sand, carbonate of magnesia, silica, and wet clay. After the thorough incorporation of these ingredients, the mixture is placed in moulds, subjected to hydraulic pressure, allowed to dry, and then burnt.

According to Evans's process (1873, pat. 431) stones and bricks were formed from powdered slate, merely mixed with water, dried, and burnt in a kiln.

Ten years later, Shepherd and Aspinwall's patent was brought out, in which it is directed to mix the slate *débris* with Portland cement, and a hardening solution, such as a dilute one of soluble glass or of aluminate of potash, or of magnesium chloride, or carbonate; the mass having been well mixed is to be pressed into moulds, allowed to set, and should be exposed to the weather for about three months before being used. "Calcareous Slate," an American invention, is somewhat similar in character; the powdered slate is incorporated with Portland cement, or lime and "earthy matters," and the articles when moulded are to be indurated by exposure to an atmosphere of carbonic acid gas.

A recent English patent is that of J. T. Welch, of Carnarvon, who grinds up slate *débris* into powder, compresses into blocks with hydraulic pressure, and dips the bricks so formed into potter's slip, and finally burns in a kiln.

Other patents in which waste products are utilised may be briefly enumerated. The refuse sand of glass works, moulded, pressed, and baked, formed the artificial stone patented by Motte in 1881. Herman also, in 1883, employed for the same purpose waste materials from glass works, which were moulded to desired shapes (with or without alkaline silicates) and baked; the same patentee proposed the utilisation in the same manner of copper works slag, &c.

Hemmerling's stone, patented in 1883, is composed of glass furnace slag in a ground state mixed with from 2 to 30 per cent. of any desired colouring matter to which has been previously added one-third of its weight of soluble or water glass. This, when dry, is reduced to powder and kneaded up with solution of soluble glass; the paste is then placed in moulds to a moderate depth and backed up with a mixture of slag, sand, and cement. After pressing and drying for a few hours the stony mass is taken from the moulds, dipped in a solution of water-

glass, placed in water for four weeks, dried, and again dipped in water-glass.

Other products, such as Highton's patent "Victoria stone," in which is utilised the *débris* of granite quarries, will be described later on.

Books.

Cæsar in Kent: an Account of the Landing of Julius Cæsar and his Battles with the Ancient Britons. By the Rev. Francis T. Vine, B.A. (Elliot Stock.)

THE reputed landing-places of Julius Cæsar upon the coast of Britain are scarcely less numerous than the reputed birth-places of Homer. At the beginning of the last century Archdeacon Batteley made out an excellent case in favour of Richborough (the ancient *Rutupium*),—a place which, to this day, bears abundant traces of occupation by the Romans. The late Mr. Thomas Lewin advocated, with more than forensic skill, the claims of Romney Marsh; while those of Lympne (*Lemanis*) have been set forth by Mr. Beale Poste with no little ingenuity. But, after all, we agree with Mr. Vine that the balance of evidence is strongly in favour of Deal having been the post of debarkation on the first invasion, and Walmer, reached by a longer sea route, on the second. Cæsar's Commentaries are, of course, the chief text-book, and from them it is clear enough that the Roman general, sailing either from Boulogne or Calais, intended to land at Dover, as the nearest and most suitable point. But when he saw the British forces posted on all the hills and commanding the harbour, prudence suggested the selection of a spot where he could meet his opponents on more equal terms. There was no time to lose, for tide and wind had to be taken into account; and, as the breeze seems to have been blowing up channel, and, according to Halley's calculation, the tide in the afternoon of that particular day (August 25, B.C. 55) made in the same direction, the transport fleet sailed northwards and found a landing-place on the other side of the South Foreland. All this is very clearly made out by Mr. Vine, whose maps and plans enable the reader to understand the positions with accuracy. The country between Deal and Walmer is level and well adapted for the manœuvres of disciplined troops, while the earthworks necessary for defending the camp (remains of which are still to be seen) could be constructed with ease out of the light, sandy soil. With Mr. Vine's general conclusions we thoroughly agree, and the information which he has collected from numerous sources as to early British trade and the military stations of the Roman invaders, is valuable and interesting. We do not always share in his estimate of the value of his authorities. Nennius is not a name that commands confidence, and we must confess to viewing with grave suspicion the statements gathered from the Welsh Triads. Mr. Vine, moreover, is not altogether consistent. He speaks, for instance, disparagingly of Plutarch and Dion Cassius, because they wrote, respectively, one and two hundred years after the events on which they comment; but, on the other hand, he attributes much weight to the traditions preserved by Camden and published by him some fifteen centuries afterwards. The tendency also to dogmatise is not wholly absent from Mr. Vine's treatise. He is too "cocksure" all round, and even in the region of etymology (which he has not made his own) offers himself as an infallible guide. Thus, in speaking of the battle that took place in East Kent, near a brook called by some old chroniclers "Mercredesburne," he makes the unqualified statement:—"The first part of the name was undoubtedly derived from the god Mercred, or Mercury." We very much doubt whether such was the case, The Romans were a constructive people, and we naturally find their language in words relating to construction—roads (*strata*), bridges (*pontes*), walls (*valla*), and fortifications (*castrum* and *castra*); but the instances in which natural features were re-named by them are, we believe, extremely rare, and are not of the kind he supposes. However, these are minor blemishes in a book of decided merit, treating of a period of history in which every Englishman, whether scholar, antiquary, or otherwise, feels an interest.

Primer of Micro-Petrology. By W. Mawer, F.G.S. London: John Marshall & Co.; Hull: Elsom & Co. (No date).

THE author says that this little treatise is devoted to the points to be observed in the application of the microscope, with and without the use of the polariscope, to the study of igneous and metamorphic rocks. As a matter of fact, however, we find it deals more with minerals individually than with rocks in which more than one mineral is present. It is true these latter are here and there alluded to, and the general characters of igneous rock-structure, texture, groundmasses, &c., are given in a masterly style with clear definitions; and the numerous illustrations show that the author really was thinking more of rocks than of minerals only, yet it is a pity he did not describe the diagrams in their proper places, and thus produce a result more in keeping with the title of the work. Indeed, he seems to have thought so himself, if we may judge from the short postscript on the subject. Moreover, although it professes to deal with metamorphic rocks, it only does so incidentally, if we except the description of chiastolite in Skiddaw slate and of Carrara marble (pp. 52, 53). In dealing with rock-structure, for example, no allusion is made to the foliated structure so typical of gneiss, schist, &c., which is an essential point, and quite as important as the features characteristic of igneous rocks, described by the author. In view of the brilliant discoveries of late years amongst metamorphic rocks, we should think that metamorphic structure would have claimed a considerable amount of space, in a work professing to give the elementary outlines of micro-petrology. Following the fashion of the times, the author only just touches upon the microscopic appearance of aqueous rocks, so that sandstones, limestones, and the like are barely mentioned. Whatever shortcomings the work may have, however, we must say that it most admirably treats of the peculiar microscopic features of the chief rock-forming minerals, and we have not been able to detect any errors of description, so that if the author had given some such title as "The microscopic characters of the chief rock-forming minerals" to the work, it would have been much more appropriate, and nobody could then have found fault with it.

A Practical Treatise on the Steam-Engine Indicator and Indicator Diagrams. By A.M.I.C.E. Edited and enlarged by W. Worby Beaumont, M.Inst.C.E., M.I.M.E. London: The Electrician Printing and Publishing Company.

THE indicator plays so important a part in enabling the engineer to design and adjust the steam-engine so as to get the most efficient result from its working, that the wonder is, not that there should be so many works devoted to its consideration, but that there should be so few. In the book under notice the author has not attempted to break new ground, but has performed the less ambitious, but far more useful task, of putting forward known and acknowledged facts in a plain manner. The author avoids mathematics, which, indeed, are quite unnecessary in a work of this sort, excepting for a display of the writer's erudition.

The opening chapters deal with different descriptions of indicators,—descriptions being given which are, with the aid of illustrations, sufficiently plain to enable any one to grasp the distinctive characteristics of the various forms mostly seen in use. A chapter on the necessary points to be observed in fixing the apparatus,—a most important detail,—is next given. The diagram having been obtained, the lessons to be learned from it are next taken in hand, and this naturally forms the larger part of the book. On p. 70 the author comments on the mistake of expanding beyond a desirable range,—a process which causes far more loss in steam-engine working than the majority of users have any idea of. In an example given, steam is cut off at one-tenth the stroke, the terminal pressure being 3 lb. absolute, with a back pressure of 2 lb., or leaving 1 lb. to overcome engine-friction. This, the author rightly states, is not generally considered sufficient pressure to produce good results, if the view be taken that the terminal pressure must be enough to overcome engine-friction as well as back-pressure. To this view the author takes exception. He says, "The period during which pressure is below that necessary to balance back-pressure and engine-friction is small, and it is not quite so certain that a loss accompanies expanding to pressures below that balance." This is perfectly true, but the passage is open to objection, inasmuch as the author puts out of sight the crucial point, and is leading the student off the scent on a side issue which may or may not apply. The main principle to keep in view when considering the most desirable terminal pressure in any one cylinder is the range of temperature during expansion in the cylinder; and whether steam-pressure is utilised in overcoming friction or doing useful work does not affect the principle, although it may lead to modifications in detail. From what is said later, the author evidently has himself a clear perception of this fact, but when writing for the purposes of instruction each section should stand on its own bottom. In treating of theoretic expansion-curves and the application of Boyle's law, the author says of two particular diagrams:—"Practically, the departure by a minor quantity at the beginning, and by an excess in the latter part of the expansion, makes the indicator diagram-curve nearly identical in area with the theoretical or hyperbolic curve formed according to Boyle's law, and this is partly due to the steam admitted to fill clearance and port spaces, and partly to condensation in the beginning of the stroke. We shall, therefore, assume, for the purposes of calculation, that the expansion of steam in a steam-engine cylinder takes place according to this law, and that the curve representing the diminishing pressure, due to increase of volume, is a portion of a hyperbola." This is far too wide a generalisation, and, in fact, the author assumes too much. Of course, steam does not expand in accordance with Boyle's law, but, for purposes of comparison and investigation, the expansion-curve on the diagram may be compared to the hyperbolic curve. The fact that a portion of the useful effect lost in condensation is recovered by re-evaporation is also beyond dispute; but if the author means that a given volume of steam entering a cylinder during the admission period of the stroke will expand after cut off, so as to give a curve approximately a hyperbola when reinforced by the steam in port and clearance, he is very much mistaken. If, on the other hand, he means that the total volume between the slide-face and piston, *i.e.*, the volume admitted to the cylinder during the admission period, plus the steam in port and clearance, will expand approximately in accordance with Boyle's law, he can only be accused of some ambiguity of language, the more noticeable as it is a fault into which he very rarely falls. We think, also, that the loss of heat to the condenser during eduction ought to be more prominently brought forward.

The examples of indicator diagrams, detailing the salient features of engine arrangement revealed by their means, are excellent object lessons, which may be read with interest by all engineers, and with instruction by a very large proportion.

RECENT PATENTS.

ABSTRACTS OF SPECIFICATIONS.

14,674, Spanners. A. Anderson.

In metal spanners with movable jaws a peculiar form of screw and engaging-block is by this invention used for the purposes of greater security and strength.

14,776 Catches or Fasteners. S. Timings and S. Hill.

This invention has reference to those spring-catches or fasteners for cupboards, windows, &c., in which a bolt having an inclined end projects through a metal plate fixed to the door, so that on closing the door the bolt is caused to slide back into its casing by its end coming in contact with an inclined striking-plate fixed to the door-jamb. When the door is closed the bolt is caused by its spring to slide forward again beyond the striking-plate, maintaining the door in position; but on the door being opened, the bolt is caused to slide back into its casing on passing the striking-plate. The improvement is effected by the inner end of the bolt being made to project through, and being free to slide in a longitudinal slot in the base of the casing, but being prevented from leaving the slot by a projecting pin on each side. The front opening in the casing through which the bolt projects is made large enough to allow of the bolt swinging through a short space round its inner end as a centre. The swinging motion thus allowed gives a little extra play to the bolt. The door may be opened a short space by the action of the bolt and spring, and pulled back and securely closed until the door is again opened far enough for the end of the bolt to pass the striking-plate.

15,666, Manufacture of Cement. G. M. R. Layton.

According to this invention the red-hot cement or clinker is caught as it falls from the furnace and passed on trolleys into air-tight chambers, where the heat is utilised to dry the "slurry" previously laid in the chambers.

17,566, Ventilators. H. Stockman.

In order to disperse foul air, gases, &c., from mines, tunnels, or sewers, tubing is by this invention used in conjunction with a mouth and an outer tube. A current is set up, either by the use of an exhauster, or by leading one end of the tube to near a furnace.

17,967, Blue Bricks, Tiles, &c. B. Gregory.

Instead of using blue or fire-clay, the inventor uses rocks containing silica, which are pulverised and added to common clay. Iron ore is also added, the brickmaker rolling his clod in the pulverised ore.

5,931, Ventilating Halls, &c. D. G. Hoey.

Outlets for vitiated air are by this invention arranged near the roof or ceiling, and a gas-jet used, if necessary, to promote a current of air. The fresh air is drawn in by several inlets from the lower level of the dado, and a wire screen or gauze is placed in an inclined position at the top of the dado, so that fresh air may be quickly and uniformly distributed.

6,854, Wood-working Machines. E. W. Snedeker.

A long and elaborate specification of this invention sets forth the details of construction of a machine with several wood-working appliances to be operated by foot-power. A jig-saw, band-saw, moulder, circular-saw, and boring attachment are combined with mechanism for turning square or angular stock into circular form, all in the one machine.

7,251, Door-latches. R. Partridge.

An ordinary thumb-latch is made in two pieces formed of special shape, and by one piece passing through the other and being clipped by ears folded over, the use of rivets for fastening is dispensed with.

NEW APPLICATIONS FOR PATENTS.

Oct. 5.—14,327, A. Hutchinson, Construction of Baths.—14,338, W. Wilkie, Ventilators.—14,339, W. Leigh, Door-locks, &c.

Oct. 6.—14,354, H. Edwards and Others, Process of Manufacturing Cowls.—14,358. W. Bishop, Slow-combustion Stoves.—14,364, F. Rogers, Silent Fastening for Doors, Windows, &c.—14,382, T. Dalton, Opening, Closing, and Securing Skylights, &c.—14,392, A. Noad, Decoration of Ceilings and Cornices.—14,402, E. Edwards, Self-acting Window-sash-fasteners, &c.

Oct. 8.—14,418, A. Ransford, Automatically Lighting Star-lights and other Gas-fittings.—14,423, H. Metcalf, Ventilator.—14,439, F. Simpkin, Safety-sash Window-frame.

Oct. 9.—14,454, B. Talbot, jun., Rain-troughs for Roofs of Buildings.—14,490, W. Sayer, Making Bricks, Tiles, &c., from Plastic Clay.

Oct. 10.—14,536, E. Stead, Moulding and Pressing Bricks, Blocks, and Slabs.—14,539, T. Stephenson, Earthenware Tiles.—14,542, R. Newington, Electric and other Bells.

Oct. 11.—14,587, J. Kirkbride, Window-sashes.—14,595, W. Jarvis, Chimney-tops.—14,628, W. Shelley, Water-taps.

PROVISIONAL SPECIFICATIONS ACCEPTED.

8,727, W. Plested, Sharpening Plane-irons, Chisels, and Joiners' Tools.—11,429, J. Parkinson and others, Rules, T-squares, &c.—11,711, T. & M. Howe, Tubular Saws.—11,994, J. Cundall, Damp-proofing for application to walls and foundations of buildings.—12,061, M. Smith, Chimney-tops.—12,841, A. Jack, Cement.—12,845, F. Allchin, Asphalte Floors, &c.—12,910, E. Thomson, Laying Wood Floors.—12,957, T. Shouler, Springs and Checks for Doors, &c.—12,995, R. Parry, Cutting the length of Clay emitted from Brick-machines.—13,009, R. Holdsworth and H. Garland, Door and other Bolt Locks.—13,059. W. Jarvis, Wall-blocks for Buildings.—13,115, W. Joynson, Roof-gutters.—13,561, J. Gamlin, Chimney-pieces.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to Opposition for Two Months.

15,148, J. Cardwell and J. Chandler, Bolts for securing Shop-window Shutter-bars, Sliding-sashes, &c.—15,476, E. Lofts, Ventilating.—16,619, S. Wilding, Lift or Elevator for Staircases.—16,621, J. Larmanjat, Moulding, Pressing, and Drying Tiles having inlaid patterns.—17,005, H. Steven, Domestic Fire-grates.—17,009, J. Garvie, jun., Steam Pile-drivers.—17,199, J. Shorrock, Drying Timber, &c.—10,913, G. Davis, Drain-traps.—12,589, H. White, Window-fasteners, &c.—12,734, C. Rogers, Heads of Wood Screws.—12,830, J. McChesney and A. Cobham, Sash-balance.

RECENT SALES OF PROPERTY.

ESTATE EXCHANGE REPORT.

OCT. 4.

By A. SAVILL & SON (at Chingford).

Chingford—A freehold cottage and 13a. 0r. 7p.	£2,000
Walthamstow—A plot of marsh-land, about 2 a.	80

OCT 9.

By DOWSETT & CO.

Wimbledon—Denmark-hill—The residence called "The Cedars," 68 years, ground-rent £20	1,100

By DEBENHAM, TEWSON, & CO.

City—64, Queen-street, 48 years, ground-rent £300	23,000
Bermondsey—93 and 95, Alderminster-road, 51 years, ground rent £8	475
Brixton—Ground-rent of £10, reversion in 75 years	250

By G. NEWMAN (at Adelaide-road).

Primrose Hill—30, Elsworthy-road, 76 years, ground-rent £4	1,110

OCT. 10.

By GLOVER & HARRISON.

Kingsland—16, Ufton-grove, 33 years, ground-rent £4. 10s.	350

By B. BROWN.

Rotherhithe—The fixed plant of the Nelson Dry Dock and Patent Slip, with house and offices, freehold	8,650

By MADDOX & SON.

Finchley-road—No. 78, known as "Home Lodge"—The lease of, term 14 years	190

By CHESTERTON & SONS.

Kensington—55, Earl's Court-road, 62 years, ground-rent £6. 17s.	665
8 and 9, Alma-terrace, freehold	1,910
Ground-rents of £30, reversion in 72 years	805
1, 2, and 4, Catherine-terrace, 26 years, ground-rent £9. 14s.	710
Ashley Cottages—Ground-rents of £12, term 50 years	220
Shaftesbury-road—Ground-rents of £63, term 50 years	1,195
Shaftesbury-terrace—Ground-rents of £63, term 50 years	1,175
Fenelon-road—Ground-rents of £29. 10s., term 50 years	595
Shaftesbury-road—Four plots of garden ground, 50 years, no ground-rent	130

By FAREBROTHER, ELLIS, & CO.

Gordon-square—No. 23, term 67 years, ground-rent £11. 12s. 4d.	2,230
Harrow-road—70, Chippenham-road, 75 years, ground-rent £10	370
Brockley—A plot of land, 1a. 1r. 14p., term 74 years, ground-rent £12	490
A plot of land, 2a. 0r. 25p., term 74 years, ground-rent £12	710

OCT. 11.

By NEWBON & HARDING.

Barnsbury—20, Albert-terrace, 59 years, ground-rent £6	200
49, John-street, 20 years, ground-rent £5	200
Highbury—2, Elwood-street, freehold	250
8 to 14 even, Myrtle-street, freehold	550
30, Monsell-road, freehold	250
18 and 20, Chatterton-road, freehold	670
116, Blackstock-road, freehold	415
Two plots of freehold land	900
Ground-rents of £12, reversion in 56 years	410
Ground-rents of £18, reversion in 50 years	425
Ground-rents of £4, reversion in 48 years	115
Ground-rents of £10, reversion in 55 years	310

By C. C. & T. MOORE.

Rotherhithe—20, Princes-street, freehold	300
Hackney—90 to 98, even, White Post-lane, 71 years, ground-rent £10	460
Walthamstow—36, 38, and 40, Milton-road, freehold	700
42, 44, and 46, Milton-road, freehold	700

By D. YOUNG.

Battersea—38 and 40, Northcote-road, freehold	2,440

By E. STIMSON.

Bermondsey—78, Alscot-road, 35 years, ground-rent £5. 10s.	450
14, 16, and 18, Limasol-street, 12 years, ground-rent £6	135
Brixton—36 and 38, Kellett-road, 84 years, ground-rent £14	635
20, 22, and 24, Wanless-road, 76 years, ground-rent £13. 10s.	530
Peckham—1 to 11 odd, Gordon-road, freehold	2,150
Newington Causeway—35, 37, and 39, Wellington-street, and 1a, 1, and 2, Dorset-street, 21 years, ground-rent £55	355

OCT. 12.

By HORNE, SON, & EVERSFIELD.

City of London—65 and 66, Fetter-lane, freehold; and a ground-rent of £50, reversion in 42 years	7,300
Tooley-street—Nos. 16 and 18, freehold	2,290

By BAKER & SONS.

Friern Barnet, Oakleigh Park-road—The freehold residence, "Beaufront"	2,500
The freehold residence, "Clydesdale"	1,100
Freehold residence, "Claremont"	1,700
Three plots of freehold land	985
Romford—Ground-rent of £8, reversion in 98 years	150
City of London—13, Bishopsgate-avenue, 65 years, ground-rent £85	400
18 and 19, Bishopsgate-avenue, 65 years, ground-rent £250	650

MEETINGS.

MONDAY, OCTOBER 22.

Society of Antiquaries of Scotland (*Rhind Lectures in Archæology*).—Mr. R. Munro, M.A., on "The Lake Dwellings of Europe," II. 4 p.m.

WEDNESDAY, OCTOBER 24.

Society of Antiquaries of Scotland (*Rhind Lectures in Archæology*).—Mr. R. Munro, M.A., on "The Lake Dwellings of Europe," III. 4 p.m.

Institution of Mechanical Engineers.—Ordinary General Meeting in London.—(1) Discussions on Mr. H. R. Towne's paper on "Emery's Testing Machine," and on the Hon. C. A. Parson's paper on "The Compound Steam Turbine and Turbo-Electric Generator." (2, time permitting) Papers by Mr. A. W. N. Tyrrell on "The Rathmines and Rathgar Township Waterworks," and by Mr. Thomas Urquhart, on "The Use of Petroleum Refuse as Fuel in Locomotive Engines." 7.30 p.m.

THURSDAY, OCTOBER 25.

Institution of Mechanical Engineers.—Ordinary General Meeting in London (continued). 7.30 p.m.

FRIDAY, OCTOBER 26.

Society of Antiquaries of Scotland (*Rhind Lectures in Archæology*).—Mr. R. Munro, M.A., on "The Lake Dwellings of Europe," IV. 4 p.m.

Miscellanea.

Ravenscourt Park, Hammersmith.—At the meeting of the Metropolitan Board of Works on the 12th inst., Mr. Brown introduced a deputation from the Vestry of Hammersmith, who presented a memorial praying the Board to take down the fencing erected on the south side of Ravenscourt Park, and put up a fence that would permit of the grounds being seen by the public in passing, and by the residents in the houses facing the park. Mr. Lethbridge, who spoke for the deputation, said the Vestry, in subscribing half the money, felt that the Board would look after their interests. The inhabitants of Hammersmith had been accustomed for years to have a good view from the roadway of the forest trees and so forth of the park, but now the Board had erected a fence so closely barred that they could not see through it. The residents in the neighbourhood were also much annoyed because of the lessening of the value of their property. The present fence, he observed, was a cross between a builder's hoarding and what might be called a colonial fence. Mr. Brown introduced another deputation from the resident ratepayers of Hammersmith, who also presented a memorial on the subject. Major-General Goldsworthy, M.P. for the borough of Hammersmith, was spokesman for this deputation. The memorials were referred to the Parks Committee for consideration and report, the Chairman observing that the evident feeling of the Board was in favour of a different kind of fence being erected from what was now in existence.

Forthcoming New Books.—Among Messrs. Crosby Lockwood & Co.'s announcements for the present season we notice the following works:—"Practical Surveying," a text-book for students preparing for examinations or the colonies. By George W. Usill, A.M.I.C.E., with upwards of 330 illustrations. Crown 8vo.—The same publishers also announce for immediate publication—"Tables, Memoranda, and Calculated Results, for Farmers, Agricultural Students, Graziers, Surveyors, Land Agents, Auctioneers, &c." with a new system of farm book-keeping. By Sidney Francis. Waiscoat pocket size.—"Turning," a text-book on the elementary principles and practice of using the lathe, with numerous engravings and diagrams. By P. N. Hasluck. Crown 8vo.—"The Number and Weight Calculator," showing in single tables the value at 421 different rates (from $\frac{1}{64}$ of 1d. to 20s.) of any number of articles from 1 to 20,000, or any number of tons, cwts., qrs., and lbs. from 1 to 1,000. By Wm. Chadwick. Second Edition. 8vo. Revised and specially adapted to the apportionment of mileage charges for railway traffic. Also the following works in their popular "Weale's Rudimentary Series":—"The Art of Practical Brick Cutting and Setting," showing the most advanced methods of setting out, taking off and applying bevels for arches, groins, cones, domes, columns, walls, mouldings, &c., with remarks on bricks, mortar, artificial stone, &c., and rules for mensuration of gauged work." By Adam Hammond, author of "Practical Bricklaying." With 90 engravings. "Plumbing," a Text-book to the Practice of the Art or Craft of the Plumber. By William Paton Buchan. Fifth Edition. Thoroughly revised and enlarged, with many additional illustrations—"Modern Workshop Practice." By J. G. Winton. A new edition.

Renaissance Vase.—Mr. Claude Phillips writes to us in reference to the fine vase of which we published an illustration last week, to say that he knows the work, though he does not know its present whereabouts, and that it is a comparatively modern work in Renaissance style, by a late famous French craftsman, Antoine Vechte. The actual work, if we had seen it, would, of course, have shown its modern character, which a drawing does not indicate in the same way. As it came to us among some drawings of work obviously ancient, we concluded that this also was a specimen of old work. It says much for Vechte that he should have reproduced so much of the nobility of style and modelling characteristic of Italian Renaissance work.

The Nineteenth Century Art Society.—Saturday, the 27th inst., has been appointed for the private view of the autumn exhibition (the sixteenth) of the Nineteenth Century Art Society, at the Conduit-street Galleries, and the exhibition will open to the public on Monday, the 29th inst.

Tramways Wanted for East Dulwich.—At the meeting of the Metropolitan Board of Works on the 12th inst., Mr. E. Dresser-Rogers introduced a deputation from the inhabitants of East Dulwich, who presented a memorial in favour of an extension of the tramway from East Dulwich to the Choumert-road and High-street Peckham. Mr. Richard Seeley said for many years a means of communication had been wanted between Dulwich and Peckham, and at the present time, in consequence of this want, there was a large number of empty houses in the locality, representing a rateable value of 20,000*l*. Another argument in favour of the tramways was that the Metropolitan Board of Works were now laying out Dulwich-park, which would be visited by thousands of persons from Peckham and from all parts of London. Mr. Andrew Middlemass introduced a deputation from inhabitants of Peckham with a memorial on the same subject. Mr. Perry, spokesman for the deputation, said the memorial was signed by 670 inhabitants of Peckham, who felt that this was a case where the minority should give way to the majority, because the tramways would be for the benefit of the masses. He submitted that Rye-lane, with the exception of a very small portion—about 50 ft.—was of the statutory width required for the purpose, and he mentioned the names of several thoroughfares where there were double lines of tramway, which were not of the statutory width in all their lengths. Among these were the High-road to Woolwich, Loughborough Junction, Queen's-road, Peckham, Nine Elms-lane, High-street, Vauxhall, Mare-street, Hackney, and East-road, City-road. Mr. Middlemass also introduced a deputation from the Vestry of Camberwell, who presented a resolution in favour of the same object. Mr. G. C. Whiteley, Chairman of the Vestry, who spoke for the deputation, observed that the Camberwell Vestry were nearly unanimous in favour of the tramway extension in Rye-lane. The question had been before the Vestry of Camberwell and the Metropolitan Board for seven years, and now there was an opportunity of having the matter settled. East Dulwich was a large district, containing some forty or fifty thousand inhabitants, and no part of the metropolis was so completely isolated from the great centre of the population as was East Dulwich. There were nearly 1,000 houses empty in the district, and, although there might have been some over-building, he, as a resident in the neighbourhood, could state that the want of communication was one of the principal causes of the houses being unoccupied. The memorials were referred to the Works and General Purposes Committee.

Institution of Mechanical Engineers.—The ensuing ordinary general meeting of this Institution will be held on Wednesday and Thursday next, Oct. 24 and 25, at 25, Great George-street, Westminster, by permission of the Council of the Institution of Civil Engineers. The chair will be taken at half-past seven p.m., on each evening, by Mr. Charles Cochrane, Vice-President, in the absence of the President, Mr. Edward H. Carbutt, who is travelling in America. The ballot-lists for the election of new Members, Associates, and Graduates, having been previously opened by the Council, will be presented to the meeting; and the names of those elected will be announced. The nomination of officers for election at the next annual general meeting will take place. The discussions will be resumed on the following papers read at the last two meetings in May and August:—"Description of Emery's Testing Machine," by Mr. Henry R. Towne, of Stamford, Connecticut, U.S.A.; "Description of the Compound Steam Turbine and Turbo-Electric Generator," by the Hon. Charles A. Parsons, of Gateshead. The following papers will be read and discussed, as far as time permits:—"Description of the Rathmines and Rathgar Township Water Works," by Mr. Arthur W. N. Tyrrell, of London; "Supplementary Paper on the use of Petroleum Refuse as Fuel in Locomotive Engines," by Mr. Thomas Urquhart, Locomotive Superintendent, Grazi and Tsaritsin Railway, South-East Russia.

Gas in Theatres.—The stage of the Parc Theatre, Brussels, has recently been lighted by means of the Wenham "Safety" gas-lamp, and we are informed that the experiment is a complete success. This is a move in the right direction, as the use of naked lights over the stage is a source of great danger. The Wenham lamp, as our readers know, is entirely enclosed. The lamps have also recently been used at the Promenade Concerts, Covent Garden.

Arthur-street West.—Whenever great engineering undertakings are in progress in the midst of densely-crowded thoroughfares there is always considerable danger that damage may be done to surrounding property, and such has been the case in connexion with the excavations now being made for the terminus of the City and Southwark Subway. Every care appears to have been taken to prevent mishap, for which purpose the engineers have sunk to a depth of 67 ft. below the pavement. The tunnels, which consist of iron tubes 20 ft. in diameter, have been put in without accident, and the trouble appears to have arisen only from the works at the station. The entrance to this is at the corner of Arthur-street East, where hydraulic lifts will convey passengers to and from the level of the line. The platform will extend under King William-street, and along Arthur-street West as far as Miles'-lane, up to which point the width of the station is about 27 ft. Here are at present a large staff of labourers finishing the work, the wooden frames for which are still standing. There can be no doubt that the houses at the corner of Arthur-street West present a dangerous appearance, with buttresses and struts projecting from them on all sides, and an alarming notice from the Commissioners of Sewers, dated early in September, calling on the tenants of 32, King William-street to vacate possession, and begin pulling down their property within six days. Some subsidence had certainly taken place in the buildings, but it is probably more apparent than real, and it is by no means certain that in its entirety it can be traced to the operations of the Subway Company. The whole of this part of King William-street was formed of mud excavated from the Thames, at the building of London Bridge, and the street, therefore, being "made" soil—even after fifty years' pounding—is likely to give when tunnelling goes on beneath it. We have it on the best authority that there is no danger to the traffic, and that the Monument is not in the least affected by the excavations.—*City Press.*

The English Iron Trade.—The English iron market has been getting stronger during the week, the results of the quarterly meetings having contributed towards the improvement. Owing to the greater stiffness of makers of pig iron, who are getting more cautious in binding themselves for forward deliveries, in consequence of the threatened wages difficulty in the coal trade, and the prospect of a material advance in the price of fuel, business in crude metal has been restricted; but there are no signs of their giving way. The Scotch warrant market has been firmer, and quotations this week show a rise over those of last week. Middlesbrough iron may be said to be 6d. a ton higher, and is now 35s. for prompt with makers, although merchants are underselling them by about 6d. a ton. Bessemer iron is very steady at 44s. 6d. in the north-west of England. In Staffordshire and Worcestershire the improvement in pig-iron established at the quarterly meetings varies between 2s. 6d. and 5s. a ton upon last quarter's rates. Finished iron is still actively dealt in at the full prices of last week, and there is another advance in black sheets of 2s. 6d. a ton, and a similar rise in Welsh bars. Although not much actual business is passing in tinplates, inquiries are once more active, and previous prices are firmly held by makers. The steel market maintains its firm tone, which is chiefly due to the large consumption of shipbuilding material; but the general steel trade is also sound, business in rails having likewise recovered. Shipbuilders continue active, and engineers well engaged, new work still coming forward in both departments.—*Iron.*

Sale of the Three Nuns Hotel, Aldgate. About a fortnight ago the lease and goodwill of this hotel were offered for sale at the Mason's Tavern, by Messrs. Fleuret & Co., in consequence of the death of Mr. Deputy East, the owner of the property. The ground-landlords are the Metropolitan Railway Company. The particulars stated that the hotel was held on a long lease, at a rental commencing at 1,400*l*. a year, with advances in succeeding years. There was a very numerous attendance. The biddings commenced at 15,000*l*., advancing to 18,900*l*., on which the competition ceased, when Mr. Fleuret said he could not sell at such a price, as the property was considered to be worth a much larger sum. It was withdrawn at 25,000*l*., which was announced as the reserve, and within the last few days the property has been sold at that price.

National Registration and Technical Education of Plumbers.—The West of Scotland Technical College authorities and the District Council, acting in conjunction with the Plumbers' Company, have started technical classes for plumbers. The introductory lecture was delivered on the 11th inst. in the large hall of the Christian Institute, Glasgow. There was a very large attendance, upwards of 800 plumbers,—masters, operatives, and apprentices,—from all parts of the district being present. Mr. Thos. Russell, one of the Governors of the Institute, presided, and, in introducing the lecturer, urged the students to remember the responsibility for human life which rested with plumbers. The lecturer was Mr. J. W. Clarke, the first practical plumber who succeeded in obtaining the Company's Freedom by passing in honours the prescribed examination in the principles and practice of the craft. Prof. Jamieson and several of the governing body of the Institute were present, and Alderman Knill (in the absence of the Master of the Plumbers' Company) gave some account of the progress made and the measures which the Company are taking to extend the registration and technical training of plumbers upon a national basis. At the opening of the session of the Plumbers' Classes at the Polytechnic, London, Mr. W. Digby Seymour, Q.C., represented the Company, and announced that they had decided to award prizes to the successful students in the various branches of plumbers' work. It was mentioned that upwards of seven hundred plumbers had already been registered in the district.

PRICES CURRENT OF MATERIALS.

TIMBER.	£.	s.	d.	£.	s.	d.
Teak, E.I. ..... load	8	0	0	12	10	0
Sequoia, U.S. ..... foot cube	0	2	3	0	3	0
Birch, Canada ..... load	2	15	0	4	15	0
Fir, Dantsic, &c.	2	0	0	4	0	0
Oak ,, ...	2	0	0	4	10	0
Canada	4	0	0	6	10	0
Pine, Canada red	2	10	0	3	10	0
,, yellow	2	10	0	4	0	0
Lath, Dantsic ..... fathom	3	10	0	5	0	0
St. Petersburg	5	0	0	6	0	0
Wainscot, Odessa, crown	2	10	0	3	0	0
Deals, Finland, 2nd and 1st...std.	9	0	0	10	0	0
,, 4th and 3rd	7	0	0	9	0	0
Riga	7	0	0	8	0	0
St. Petersburg, 1st yellow	9	10	0	15	10	0
,, 2nd ,, ...	9	0	0	10	0	0
,, white	7	10	0	10	10	0
Swedish	7	10	0	16	10	0
White Sea	8	10	0	17	10	0
Canada, Pine, 1st	16	0	0	25	10	0
,, ,, 2nd	10	10	0	17	10	0
,, ,, 3rd, &c.	7	10	0	10	10	0
,, Spruce, 1st	9	0	0	10	0	0
,, 3rd and 2nd	7	0	0	8	10	0
New Brunswick, &c.	6	10	0	8	0	0
Battens, all kinds	5	10	0	12	0	0
Flooring Boards, sq., 1 in., prepared, First	0	11	0	0	14	6
Second	0	8	0	0	10	9
Other qualities	0	5	6	0	7	9
Cedar, Cuba ..... foot	0	0	3½	0	0	3¾
Honduras, &c.	0	0	3¼	0	0	3½
Australian	0	0	2	0	0	3
Mahogany, Cuba	0	0	4½	0	0	5½
St. Domingo, cargo average	0	0	4½	0	0	5½
Mexican ,, ...	0	0	4	0	0	4½
Tobasco ,, ...	0	0	4½	0	0	5½
Honduras ,, ...	0	0	4½	0	0	5½
Box, Turkey ..... ton	5	0	0	12	0	0
Walnut, Italian ..... foot	0	0	4½	0	0	6
METALS.						
Iron—Bar, Welsh, in London... ton	4	17	6	5	0	0
,, ,, at works in Wales ...	4	7	6	4	10	0
,, Staffordshire, in London ...	5	5	0	6	15	0
Copper—						
British, cake and ingot..... ton	80	0	0	81	0	0
Best selected	81	10	0	82	0	0
Sheets, strong	86	0	0	88	0	0
Chili, bars	79	0	0	0	0	0
Yellow Metal ..... lb.	0	0	7½	0	0	7¾
Lead—						
Pig, Spanish ..... ton	14	7	6	0	0	0
English, common brands	14	12	6	0	0	0
Sheet, English	15	12	6	0	0	0
Spelter—						
Silesian, special ..... ton	18	17	6	19	0	0
Ordinary brands	18	12	6	18	15	0
Tin—						
Straits ..... ton	101	0	0	0	0	0
Australian	101	0	0	0	0	0
English Ingots	104	0	0	0	0	0
Zinc—English sheet ..... ton	22	10	0	23	10	0
OILS.						
Linseed ..... ton	19	17	6	20	0	0
Cocoanut, Cochin	26	10	0	27	10	0
Ceylon	25	5	0	25	10	0
Palm, Lagos	23	10	0	24	0	0
Rapeseed, English pale	30	0	0	0	0	0
,, brown	28	10	0	0	0	0
Cottonseed, refined	22	15	0	0	0	0
Tallow and Oleine	19	0	0	45	0	0
Lubricating, U.S.	5	0	0	6	0	0
,, refined	7	0	0	12	0	0
Turpentine—						
American, in casks ..... cwt.	1	13	0	1	13	3
Tar—						
Stockholm ..... barrel	1	1	6	0	0	0
Archangel	0	11	0	0	11	6

COMPETITIONS, CONTRACTS, & PUBLIC APPOINTMENTS.

Epitome of Advertisements in this Number.

COMPETITION.

Nature of Work.	By whom required.	Premium.	Designs to be delivered.	Page.
Laying out Property as Pleasure Grounds ...	Penzance Town Council	20 gs. and 10 gs. ...	Oct. 27th	ii.

CONTRACTS.

Nature of Work, or Materials.	By whom required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.	Page.
Road Making and Paving Works ...	Hammersmith Vestry...	H. Mair ...	Oct. 24th	ii.
Kerbing and Tar-paving Footpaths, &c. ...	Lewisham Board of Wk	*Official*...	Oct. 30th	xiii.
Additional Tanks, &c., at Sewage Works ...	Billericay U.R S A. ...	do.	do.	xi.
Hospital and Mortuary ...	Richmond Union ...	C. Maynard ...	do.	xi.
Yellow Deal Blocks, Thames Ballast, &c. ...	Chelsea Vestry ...	G. R. Strachan...	do.	xi.
Block of Buildings...	Vestry of St. Giles, Camberwell...	P. R. Whellock ...	Oct. 31st	ii.
Road-making and Paving Works ...	Fulham Vestry...	J. P. Norrington ...	do.	xiii.
Public Library ...	Battersea Public Libr. Commissioners ...	E. W. Mountford ...	Nov. 1st	xiii.
Works and Repairs to Buildings ...	Com. of H.M. Works	*Official*...	Nov. 2nd	ii.
Making-up Roads ...	Friern Barnet Lcl. Brd.	G. Clarke...	do.	ii.
Removal of Fine Ash and Clinkers ...	St Mary's (Battersea) Vestry ...	J. T. Pilditch ...	Nov. 3rd	xi.
Scheme for Making Public Pleasure Grounds	Bournemouth Com...	G. R. Andrews ...	Nov. 8th	xi.
Public Library ...	Chelsea Public Library Commissioners ...	Karslake & Mortimer...	Nov. 9th	ii.
Reconstruction, &c., of Church, Southampton	The Committee...	W. H. Mitchell...	Nov. 12th	xi.
Terrace Walk, Shelter Hall, &c. ...	Brighton Town Council	P. C. Lockwood ...	Nov. 15th	xi.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.	Page.
Sanitary Inspector...	Derby U. S. A....	150*l.*, &c....	Oct. 27th	xvi.
Assistant Borough Surveyor ...	Leicester Council...	300*l.* ...	Oct. 31st	xvi.

TENDERS.

[Communications for insertion under this heading must reach us *not later than* 12 *Noon on Thursdays.*]

BERMONDSEY.—For altering and partially rebuilding stabling at South-street, Long-lane, for Mr. Denman. Mr. Edward Crosse, architect, 32, Bermondsey-square, S.E. No quantities :—

Chalkley, Bermondsey ...	£210 0 0
White & Co., Rotherhithe...	189 0 0
Kipps, Bermondsey ...	160 0 0
Croaker, Great Dover-street*...	154 0 0

* Accepted.

BRIXHAM (Devon).—For Board School Buildings for 900 children, for the Brixham School Board. Mr. Geo. Soudon Bridgman, architect, Torquay.

Lapthorn & Goad, Plymouth ...	£4,882 0 0
R. Yeo, Torquay ...	4,467 0 0
H. Webber, Paignton...	4,450 0 0
Sanders & Son, Torquay...	4,300 0 0
W. A. Goss, Torquay...	4,182 0 0
M. Bridgman, Paignton...	4,049 0 0
H. Rabbich, Paignton ...	3,999 16 0
Brooks & Ash, Totnes...	3,999 0 0
E. P. Bovey, Torquay ...	3,996 0 0
Barrow, Newton Abbot ...	3,910 0 0
McKellar, Torquay ...	3,895 0 0
F. W. Vanstone, Paignton ...	3,849 0 0
Hazlewood Bros., Brixham*...	3,760 0 0

* Recommended to be accepted.

BROMLEY (Kent).—For the erection of a residence, conservatory, heating-chamber, &c., in the Highland-road, Bromley, Kent, for Mr. Geo. Kitchin. Mr. Walter A. Williams, architect, Bromley. Quantities by Mr. William Mills, 26, Budge-row, E.C. :—

Douglas Payne, Bromley ...	£3,581 0 0
Thomas Crossley & Son, Bromley ...	3,446 0 0
J. C. Arnaud & Son, Bromley ...	3,397 0 0
Thos. Gregory & Co., London ...	3,377 0 0
E. A. Roome, London (accepted) ...	3,197 0 0

BROMLEY (Kent).—For the erection of four shops and offices in the High-street, Bromley, Kent, for Mr. D. W. Harris. Mr. Walter A. Williams, architect, Bromley. Quantities by Mr. William Mills, 26, Budge-row, E.C. :—

Douglas Payne, Bromley (accepted)	£4,500 0 0

BROMLEY (Kent) —For alterations and additions to the Bromley Steam Brewery, for Mr. J. A. S. Jones. Mr. Walter A. Williams, architect, Bromley :—

W. Smith (accepted) ...	£150 0 0

CANNING TOWN, E.—For building four shops in Rathbone-street, Canning Town, for Mr. F. Bethell. Mr. T. H. Bethell, architect, 174, Bishopsgate-street Without :—

Burton ...	£1,166 0 0
Allerton & Fox...	1,150 0 0
Wyles ...	1,134 0 0
Buckland (accepted) ...	1,080 0 0

CORK.—For heating apparatus at St. Luke's Church, Cork. Mr. W. H. Hill, architect, Cork :—

John Grundy, London (accepted) ...	£100 0 0

CROWTHORNE.—For heating apparatus, Crowthorne Parish Church. Mr. A. W. Blomfield, A.R.A., architect, London :—

John Grundy, London (accepted) ...	£120 0 0

DUBLIN. — For heating apparatus at St. Kevin's Church, Dublin. Mr. Thos. Drew, R.H.A., architect, Dublin :—

John Grundy, London (accepted) ...	£135 0 0

EGHAM.—For the erection of new stables and coach-house, Queen's-road, for Mr. W. J. Smith :—

Hutt & Satchell, Richmond ...	£141 10 0
Searle & Son, Egham ...	137 0 0
Oades Bros., Egham ...	135 0 0

GRAVESEND.—For erecting new warehouse for Messrs. Masters & Co. Mr. Wadmore, 35, Gt. St. Helen's, E.C., architect :—

H. Marten ...	£1,020 0 0!
Multon & Wallis ...	756 0 0
A. C. Rayer ...	719 0 0
W. & E. Wallis ...	673 0 0
W. H. Archer (accepted) ...	510 0 0!

[All of Gravesend].

HARROW.—For alterations at "The Case is Altered" public-house, for Messrs. Benskin & Co. Mr. C. P. Ayres, architect, Watford :—

W. B. Neal, Watford ...	£441 0 0
H. W. Beechener, Harrow ...	385 0 0
G. & J. Waterman, Watford* ...	366 0 0

* Accepted.

HORNSEY.—For making up Waverley, Christ Church, and Cecile Park roads, and sewering Alexandra-place :—

	A. £.	B. £.	C. £.	D. £.
Victoria Stone Co. ...	1,182	—	—	—
Rogers, E., & Co., W....	1,108	—	—	—
Killingback, Camden Town	—	1,408	1,297	90
Jackson, John, Enfield ...	—	1,400	1,125	50*
Adams, T., Kingsland...	1,071	1,327	1,176	76
Bell, Tottenham ...	—	1,301	1,019	60
Walker, A., Holloway ...	—	—	1,199	92
Pizzey, Hornsey ...	—	—	1,167	85
Aspinall & Son, Finsbury-park ...	1,005	1,326	1,193	144
Mowlem & Co., Westminster	935*	1,329	1,091*	66
Dunmore, Crouch End ...	—	1,322*	1,190	141

*Accepted.

A. Waverley-road. B. Christ Church-road.
C. Cecile Park. D. Alexandra-place.

KINGSTON-ON-THAMES.—For the erection of St. Luke's Church, Kingston-on-Thames. Messrs. Kelly & Birchall, architects, Queen Anne's-gate, Westminster, S.W. :—

	No. 1 Contract.	No. 2 Contract.
Wheeler...	£4,800 10 0	£2,420 0 0
Oldridge & Sons.	4,286 0 0	1,819 0 0
D. Judd...	3,677 10 0	1,581 15 0
W. H. Gaze* ...	3,595 0 0	1,584 0 0

* Accepted.

LEICESTER.—For the erection of new Board Schools at Aylestone, near Leicester. Messrs. Roberts & Gordon, architects, Welford-place, Leicester :—

Stevens...	£6,240 0 0
Duxbury & Son...	6,187 0 0
Jewsbury ...	6,119 0 0
J. C. Kellett & Son ...	6,036 0 0
T. & H. Herbert...	5,860 0 0
Plant ...	5,830 0 0
T. Bland...	5,830 0 0
Hutchinson & Son...	5,825 0 0
Longden & Son ...	5,780 0 0
H. Bland...	5,770 0 0
Clark & Garrett...	5,709 0 0
W. H. Kellett ...	5,597 0 0
Hewitt (accepted)...	5,320 0 0

LEIGH.—For heating apparatus at the fitting and drying sheds at Messrs. Harrison, McGregor, & Co.'s Works, Leigh. Mr. J. C. Prestwich, architect, Leigh :—

John Grundy, London (accepted) ...	£155 0 0

LONDON.—For the transfer of the three iron buildings on the Marsh-lane site (Greenwich E2) to the site in Ilderton-road, Rotherhithe New-road, for the School Board for London. Mr. T. J. Bailey, architect :—

Young & Podger ...	£496 10 0
G. B. Ash ...	490 0 0
J. Lee ...	433 0 0
F. P. Smith ...	429 0 0
T. H. Goodsell ...	407 16 6
A. Martin ...	400 0 0
A. Cook ...	335 0 0
North & Son*...	300 0 0
H. J. Williams ...	215 0 0

* Recommended by the Works Committee for acceptance.

LONDON.—For providing new boilers and extending the present warming apparatus at the undermentioned schools, for the School Board for London. Mr. T. J. Bailey, architect :—

Kenmont-gardens.

W. G. Cannon ...	£353 0 0
J. & F. May...	320 0 0
C. P. Kinnell & Co....	265 0 0
Hayward Bros. & Eckstein ...	250 0 0
T. Green & Son* ...	233 0 0

Poole's Park.

W. G. Cannon ...	£313 0 0
C. P. Kinnell & Co.* ...	245 0 0

Queen's Head-street.

W. G. Cannon ...	£339 0 0
W. Summerscales & Sons ...	175 0 0
T. Green & Son* ...	165 0 0

Clyde-street.

W. G. Cannon ...	£173 0 0
T. Green & Son* ...	150 0 0

* Recommended by the Works Committee for acceptance.

LONDON. — For the warming of the Purrett-road school (Greenwich R1) on the low-pressure hot-water system, for the School Board for London. Mr. T. J. Bailey, architect :—

W. G. Cannon ...	£538 0 0
J. & F. May ...	447 0 0
J. Jeffreys* ...	395 0 0

* Recommended by the Works Committee for acceptance.

LONDON.—For warming the pupil teachers' department of the William-street School (Chelsea T2), for the School Board for London. Mr. T. J. Bailey, architect :—

C. P. Kinnell...	£200 0 0
W. G. Cannon ...	185 0 0
Price, Lea, & Co....	184 0 0
W. & F. May...	177 0 0
Hayward Bros. ...	135 10 2
Rosser & Russell* ...	135 0 0

* Recommended by the Works Committee for acceptance.

LONDON.—For the enlargement of the Dalgleish-street School, Limehouse (Tower Hamlets S 1) by 200 places, for the School Board for London. Mr. T. J. Bailey, architect :—

Atherton & Latta...	£2,750 0 0
J. Godfrey & Son* ...	2,287 0 0

* Recommended by the Works Committee for acceptance.

LONDON.—For the erection of a cookery centre on the Ackmar-road site (Chelsea Q1), for the School Board for London. Mr. T. J. Bailey, architect :—

F. P. Tunks ...	£518 0 0
T. Linfield ...	480 0 0
Simmonds Bros.*...	447 0 0
A. Brickell ...	436 0 0

*Recommended by the Works Committee for acceptance.

LONDON. — For completing Nos. 79, 83, and 89, Brondesbury-villas, Kilburn, N.W., under the superintendence of Mr. Wm. Eve, 10, Union-court, Old Broad-street, E.C. :—

	No. 79. £. s. d.	No. 83. £. s. d.	No. 89. £. s. d.
Spencer & Co. ...	613 5 6	613 0 0	613 0 0
Scharien & Co. ...	578 0 0	578 0 0	573 0 0
G. Godson ...	550 0 0	550 0 0	550 0 0
G. Payne ...	525 0 0	528 0 0	535 0 0
J. Munday ...	520 0 0	520 0 0	520 0 0
H. W. Saill ...	515 0 0	515 0 0	515 0 0
E. Good ...	490 0 0	490 0 0	490 0 0
G. A. Rowley ...	470 0 0	470 0 0	470 0 0
W. Tout ...	460 0 0	460 0 0	460 0 0
H. W. Dunmore...	455 0 0	455 0 0	455 0 0
R. Cox ...	445 0 0	445 0 0	445 0 0
J. Fordham...	430 0 0	430 0 0	430 0 0
C. J. Bursill ...	398 0 0	398 0 0	398 0 0
F. J. Wickes ...	393 0 0	393 0 0	393 0 0
J. Tillbrook...	365 0 0	375 0 0	380 0 0
G. Flaxman, 87, Southgate-rd. N.	365 0 0*	365 0 0*	365 0 0
Woodhouse ...	355 0 0	355 0 0	355 0 0

* Accepted.

LONDON.—For proposed new works in the erection of the Randolph Mansions, on the north-east side of Portsdown-road, Maida Vale. Messrs. New & Son, architects. Quantities supplied :—

Longmire & Burge, Gray's Inn-road	£16,360 0 0
Marks, Edgware-road ...	15,390 0 0
John Butland, 2, Braden-street...	15,225 0 0
Oldrey, Kensal-green...	15,000 0 0
Holliday & Greenwood, Battersea ...	14,739 0 0
Tennant, Willesden ...	14,451 0 0

LONDON.—For the erection of Able-bodied Wards and Workrooms for Women at the Workhouse in Northumberland-street, Marylebone, for the Guardians of the Poor of the Parish of St. Marylebone. Messrs. H. Saxon Snell & Son, architects, London :—

Patman & Fotheringham ...	£11,249 0 0
Ward, Clarke, & Co....	11,116 0 0
E Toms ...	11,047 0 0
Kirk & Randall ...	10,913 0 0
Mowlem & Co....	10,895 0 0
J. T. Chappell...	10,680 0 0
Longley, Crawley ...	10,574 0 0
Wall Bros. (accepted) ...	10,459 0 0

LONDON.—For alterations, new roofing, and decorative repairs to No. 3, Milton-buildings, Watling-street, London, E.C. Mr. H. Huntly-Gordon, architect and surveyor, 26, Craven-street, Charing-cross, London, W.C.

Colley, B.* ...	£350 0 0

* Accepted subject to alterations.

LONDON.—For proposed additions and alterations to St. James' Club, Piccadilly. Mr. E. R. Robson, F.S.A., architect. Quantities supplied by Messrs. W. H. Barber & Son.

Higgs & Hill	£6,620	0	0
Trollope & Son	6,059	0	0
Mowlem & Co.	5,945	0	0
Holland & Hannen	5,737	0	0
Peto Bros.	5,663	0	0
Bywaters	5,584	0	0
Jerrard	5,573	0	0
Perry & Co.	5,562	0	0

LONDON.—For a new staircase and alterations to Nos. 6 & 7, Noble-street, Lilypot-lane, E.C. Mr. H. Huntly-Gordon, architect and surveyor, 26, Craven-street, London, W.C.

Kirby & Chase	£169	0	0
R. Eddie	137	0	0

LONDON.—For rebuilding No. 352, Mile End-road, for Mr. E. R. Goodrich. Mr. C. A. Legg, architect. Mr. W. Hawker, surveyor :—

Wood	£1,280	0	0
Salt	1,247	0	0
Calnan	1,233	0	0
Nicolls	1,218	0	0
Keen	1,170	0	0
Hawkens	1,157	0	0
Coulsell	1,092	0	0
George Lusk	1,033	0	0
Wyard (accepted)	993	0	0

LONDON.—For repairs to shop and premises, Tottenham Court-road, London, for Mr. R. Reid, architect, Great Marlborough-street :—

Conway	£187	10	0
Styles & Son	180	0	0
Clarke & Mannoch	149	0	0
A. B. Clarke (accepted)	139	10	0

MANCHESTER.—For the erection of a house at Heaton-Mersey, near Manchester, for Mr. J. H. L. Seebohm. Mr. J. D. Harker, architect, 78, King-street, Manchester :—

Wm. Southern & Sons, Manchester	£1,720	0	0
Froggatt & Briggs, Stockport	1,699	0	0
T. & H. Meadows, Stockport	1,683	0	0
Butters & Carson, Manchester	1,645	0	0
Burgess & Galt, Manchester	1,633	0	0
J. Davison, Manchester	1,630	0	0
Wm. Shaw, Manchester	1,589	0	0
Edward Wood, Manchester*	1,570	0	0

* Accepted.

PLYMOUTH.—For erecting the Spanish Armada Memorial, on the Hoe at Plymouth, from the designs of Mr. Herbert A. Gribble, architect, 10, Sydney-street, South Kensington :—

Farmer & Brindley, London	£1,030	0	0
Roach, Plymouth	1,030	0	0
Goad, Plymouth	978	0	0
Whitehead & Sons, Aberdeen	955	0	0
Storey, Gunnislake (accepted)	895	0	0

SANDOWN (I.W.).—For the erection of a Sea-wall and formation of an Esplanade, with shipways, for the Sandown Local Board. Mr. James Newman, engineer.

J. Bull, Son, & Co., Southampton	£2,638	0	0
— Daish, St Helen's	2,425	0	0
J. Meader, Ryde	2,395	0	0
— Ball & Son, Cowes	2,223	10	0
John Tate, Fareham	2,200	0	0
George Hayles, Shanklin	2,025	0	0
Francis Hayden, Taverland	1,997	0	0
Issac Barton, Ryde (accepted)	1,769	0	0

SHERBORNE.—For heating apparatus (warm air), Sherborne Abbey Church. Messrs. Carpenter & Ingelow, architects, London :—

John Grundy, London (accepted)	£275	0	0

STANSTEAD.—For heating apparatus at Stanstead Parish Church. Mr. W. D. Caröe, architect, London :—

John Grundy, London (accepted)	£100	0	0

STRATFORD.—For new stables for Messrs. C. Boardman & Sons, Stratford. Mr. George Baines, architect, 4, Great Winchester-street, E.C. :—

North Bros.	£1,017	0	0
S. J. Scott	976	0	0
Mark Gentry	960	0	0
R. G. Battley	875	0	0
J. Godfrey & Son	818	0	0
F. & H. F. Higgs	810	0	0
F. J. Coxhead, Leytonstone*	759	0	0

* Accepted.

SWANSEA.—For the erection of two detached villa residences on the Coedsaeson Estate, Sketty, near Swansea. Mr. J. Buckley Wilson and Mr. Glendinning Moxham, architects to the estate :—

J. Gwyn ..... £880 each.

SWANSEA.—For the erection of shop, Wind-street, Swansea. Mr. J. Buckley Wilson, architect. Quantities by Mr. Glendinning Moxham :—

Thomas Watkins & Jenkins £820

SWANSEA.—For additions to residence, Walter's-road, Swansea Mr. J. Buckley Wilson, architect. Quantities by Mr. Glendinning Moxham :—

Thomas Watkins & Jenkins £710

WATFORD.—For new chimney shaft, &c., at the Cannon Brewery, for Messrs. Benskin & Co. Mr. C. P. Ayres, architect, Watford :—

G. & J. Waterman, Watford	£674	0	0
Thomas Turner, Limited (accepted)	646	0	0

WOKING.—For heating apparatus, Woking Parish Church. Mr. W. F. Unsworth, architect, Westminster :—

John Grundy, London (accepted) £160 0 0

WOODFORD.—For heating apparatus at new residence at Woodford, for Mr. Mason. Messrs. Spalding & Auld, architects, London :—

John Grundy, London (accepted) £100 0 0

WOOLWICH.—For rebuilding Nos. 34 and 35, Powis-street. Mr. Henry H. Church, Woolwich, architect :—

Barham, Greenwich	£1,300	0	0
Martin, Greenwich	850	0	0
Johnson, Woolwich	790	0	0
Coombs, Plumstead	630	0	0
Covil, Woolwich	625	0	0

WOOLWICH.—For alterations and additions at No. 101, Powis-street, Woolwich. Mr. Henry H. Church, Woolwich, architect :—

Bradley, Islington	£420	0	0
Gould & Brand, Camden-town	385	0	0
Coombs, Plumstead	275	0	0
Covil, Woolwich	275	0	0
Francis & Co., for brass sashes	50	12	0

WOOLWICH.—For rebuilding four houses in Thomas-street. Mr. Henry H. Church, architect, Woolwich :—

Coombs (accepted) £1,000 0 0

WOOLWICH.—For building two houses in Upper Market-street. Mr. Henry H. Church, architect, Woolwich :—

Coombs (accepted) £600 0 0

WOOLWICH.—For alterations and additions at No. 82, Wellington-street. Mr. Henry H. Church, Woolwich, architect :—

Coombs (accepted) £520 0 0

WOOLWICH.—For rebuilding shops, No. 42 and 43, Hare-street, for Mr. Squires. Mr. Henry H. Church, Woolwich, architect :—

Coombs, Plumstead	£820	0	0
Pitchford, Plumstead	810	0	0
Lonergan Brothers, Plumstead	785	0	0
Covil, Woolwich (accepted)	700	0	0

WOOLWICH.—For rebuilding shops, No. 117, 118, and 119, High-street, for Messrs. Paine. Second estimate. Mr. Henry H. Church, Woolwich, architect :—

Lonergan Brothers, Plumstead	£3,050	0	0
Coombs, Plumstead	2,990	0	0
Covil, Woolwich	2,975	0	0
Wallis & Sons, Maidstone	2,672	0	0

TO CORRESPONDENTS.

J. R. R. (your letter is merely an advertisement).—J. B.—A. O.—B. (not to the point).—H. I. N. (amount should be sent).—J. F. (we do not see that an architect is to blame for exercising his independent judgment about such an alteration; most clients would probably not trouble themselves about the matter, and would say, "You know best about that." But we think the architect should have informed himself by special examination about the quality of the asphalte proposed to be substituted, instead of trusting to the contractor's assurances).—B. C. & Co. (should send amount).—Lists of tenders received too late from D. & C., C. M. S., and E. L. B.

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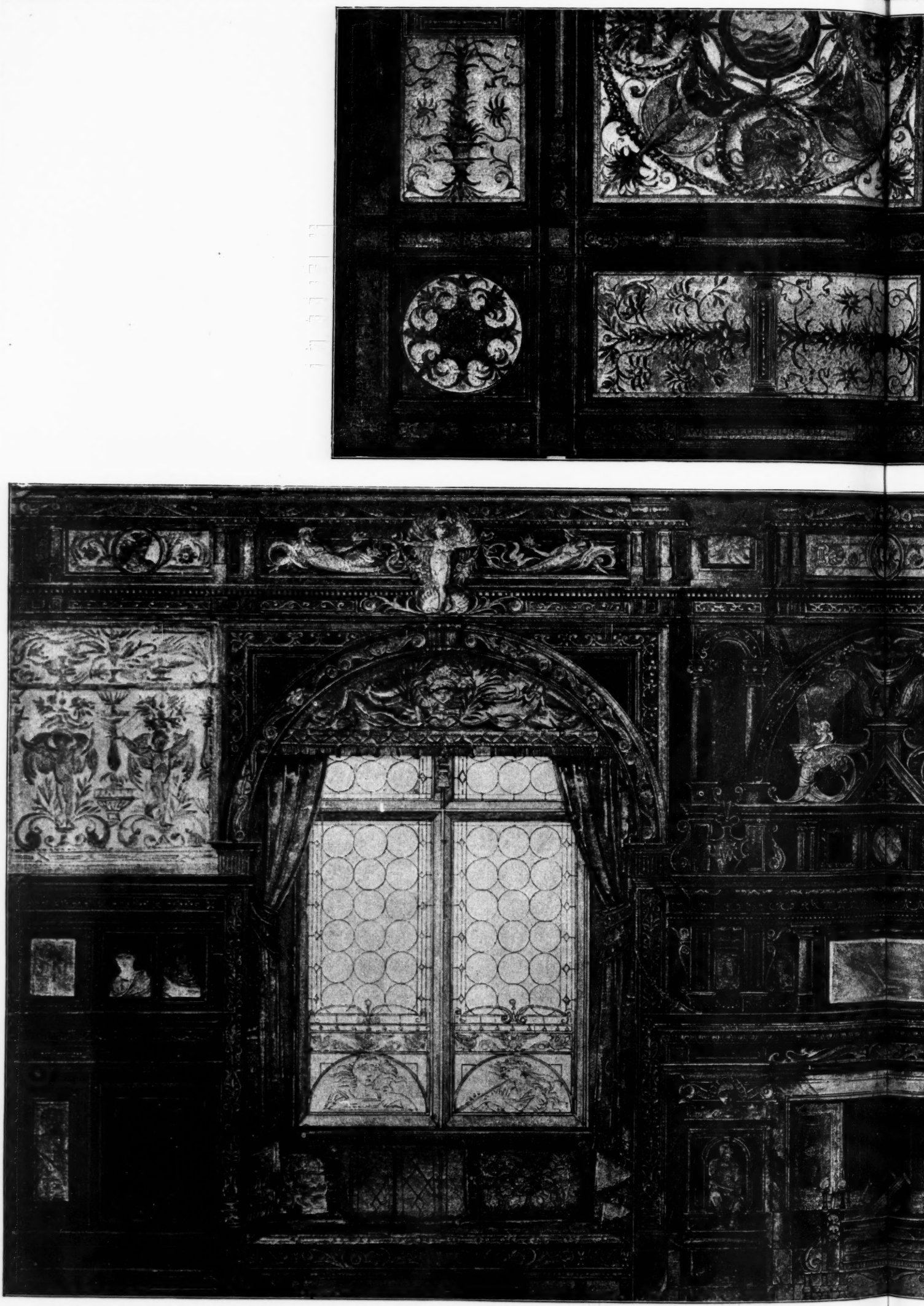

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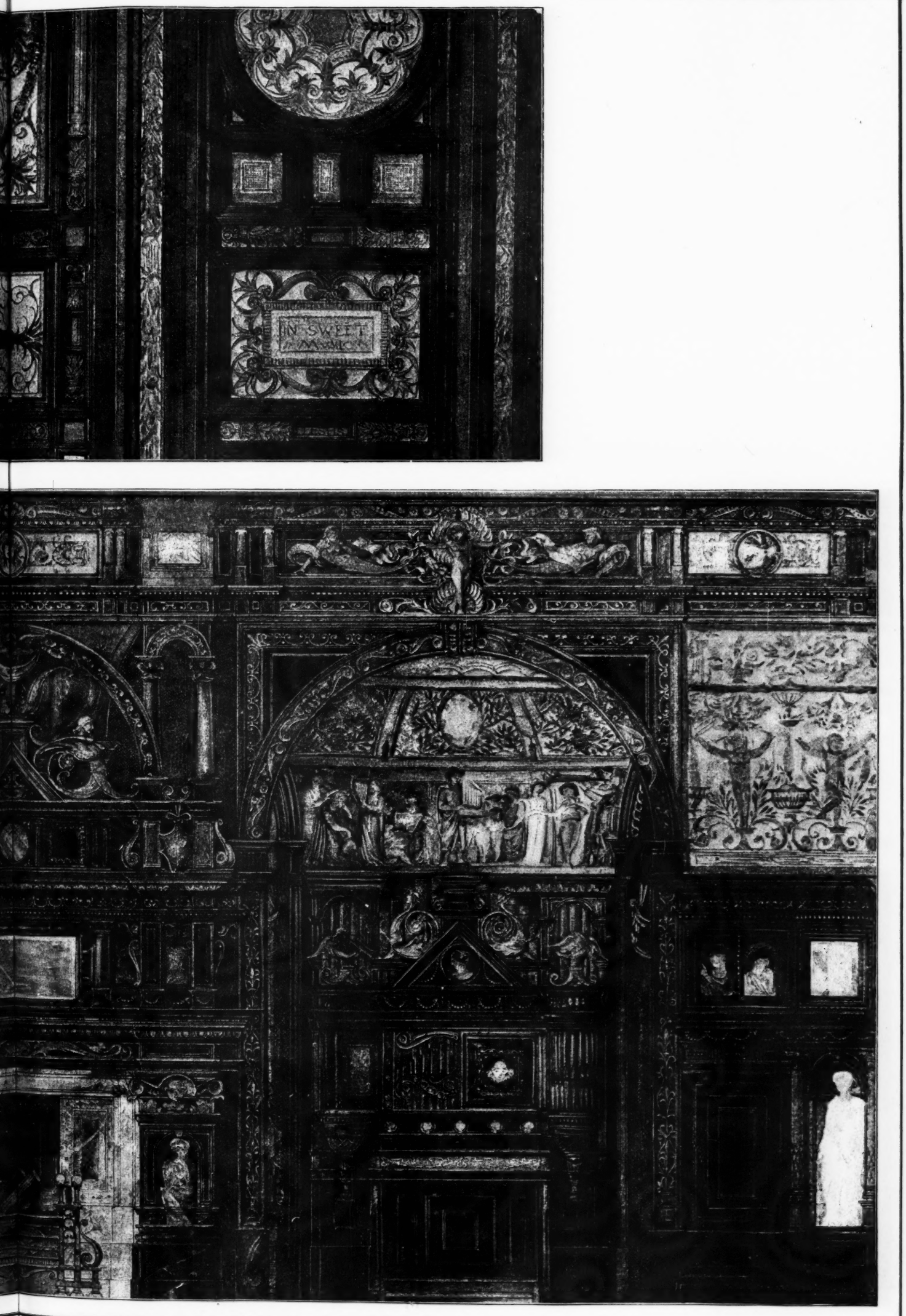

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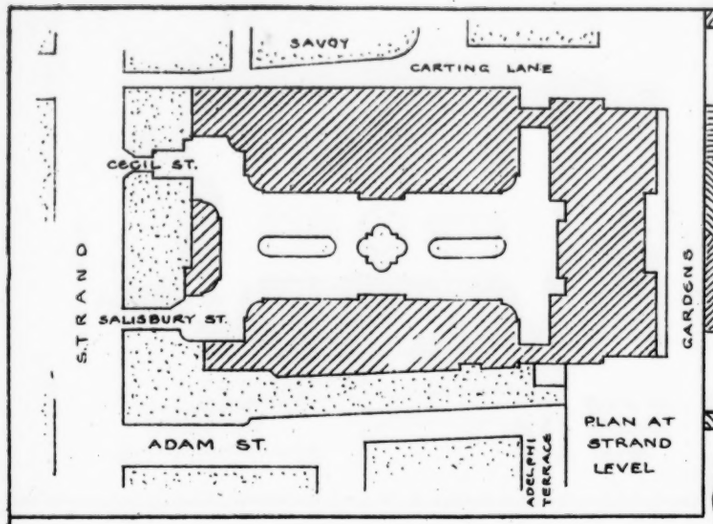

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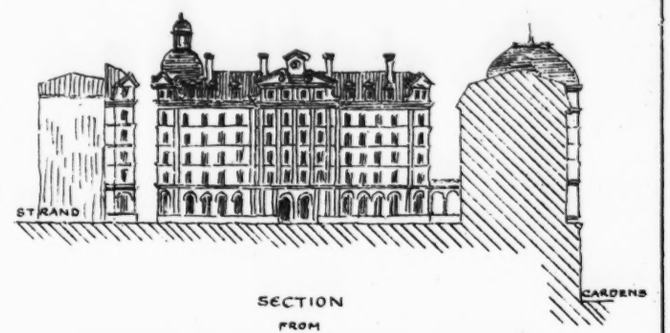

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HIGH ST, HASLEMERE.

AT SHOTTER MILL.

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AT SANDHILLS, WITLEY.

HAWLANDS, CHIDDINGFOLD.

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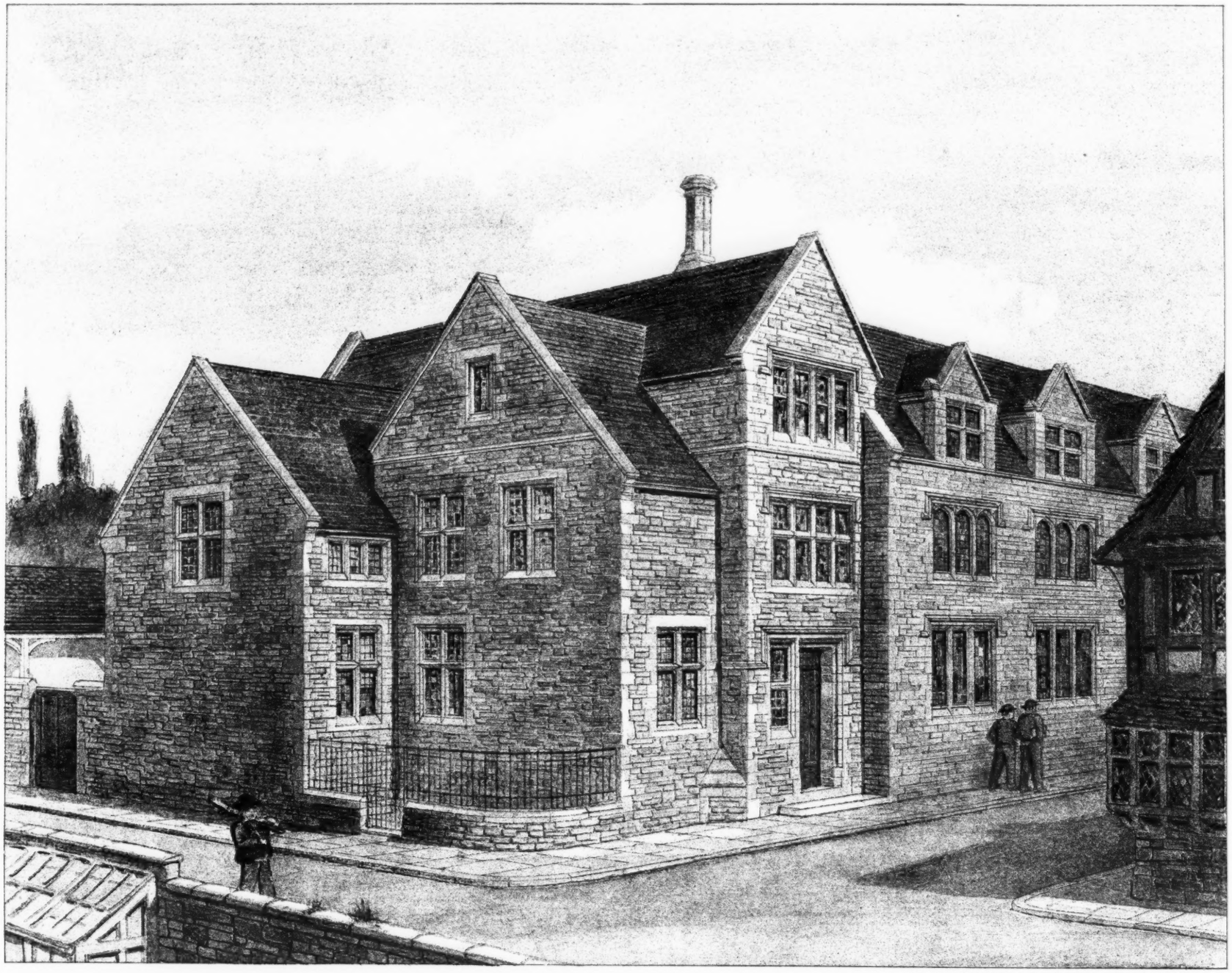

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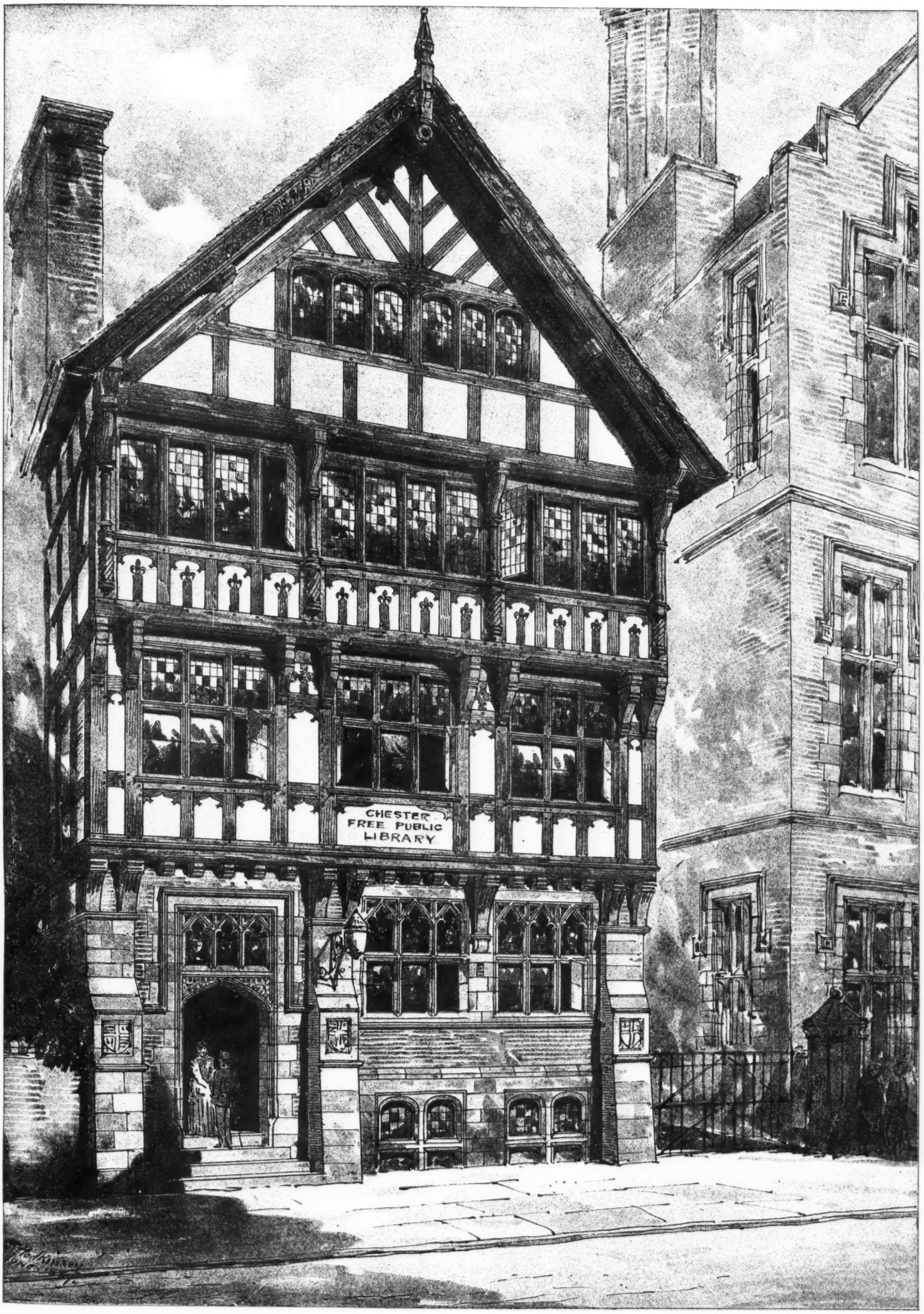

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